THE DEVELOPMENT OF MONUMENTAL STREET-ARCHITECTURE WITH SPECIAL EMPHASIS ON ROMAN ASIA MINOR

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The material relevant to the subject of this thesis is presented in two main divisions. Chapters I-IV provide a descriptive survey and analysis of the treatment accorded streets from the beginning of their architectural elaboration in the Hellenistic period. In Chapter I the literary evidence for colonnaded streets, both primary and secondary, is considered. The argument about the origins and date of such planning is outlined and then the terminology utilized in ancient sources and its importance for an understanding of the history of the development of colonnaded streets is studied. In Chapter II the physical remains of street-architecture from the Hellenistic East and Republican West are dealt with chronologically. Two architectural traditions can be distinguished in this period: the Italic street-side portico which acts as an elaborated porch for the building behind and the Greek stoa, sometimes of great length, set on the edge of the roadway.

Chapters III and IV follow the history of street management through the period from Augustus to Justinian, emphasizing the main trends in the types of architecture applied to streets. The Italic tradition is found to continue and, in areas such as North Africa, to take on a monumental appearance approaching the effect of the large-scale projects found in the East. The cities of Roman Syria contain some of the earliest and most extensive examples of monumental street-management. A survey of the known streets reveals that by the Severan period most cities and towns in the eastern Mediterranean exhibit some form of embellishment within the street-system and that the format begins to acquire an identity as a self-contained building type.

The descriptive survey presented in Chapters I-IV provides the background against which the archaeological material gathered in Asia Minor can be set and evaluated. The information gathered during field work in the Greco-Roman cities of Turkey is presented in Chapters V and VI. Many of the architectural arrangements dealt with in these chapters are little known and poorly published. Hence the description and analysis of the colonnaded streets of Asia Minor provide a useful addition to the architectural history both of this area and of the building type. Of particular importance are cities such as Pergamon and Perge which contain early examples of comprehensive schemes of extensive street-management and a group of cities in south-western Turkey in which a specialized colonnaded mall was developed, exploiting the natural topographical conditions.

The cities of Asia Minor are grouped into two broad categories according to the nature of the streets chosen for embellishment. In Chapter V the cities exhibiting an extensive use of colonnaded streets are studied. The cities whose townscape features a single decorated thoroughfare are treated in Chapter VI. Such cities include both the extended colonnaded street defining the length or breadth of a town and the more specialized mall-like configurations which are limited to a short section of roadway.

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PREFACE

My study of colonnaded streets in Asia Minor developed out of my work at the site of Anemurium in Rough Cilicia and out of a suggestion made by Professor Donald Strong and by my husband, Dr. Hector Williams. Although the subject has been treated briefly in most handbooks of Roman architecture no study had yet been done of this major feature of Roman town planning, especially in the Eastern Mediterranean. From 1974 to 1978 I visited all of the sites in Asia Minor that preserved any remains of a colonnaded street and wherever possible obtained photographs and drawings of relevant material. It will become apparent that much of this dissertation also deals with the architectural decoration of the structures, important not only for its own sake but also as, in most cases, the only source of dating evidence for the streets. Few of the colonnaded streets of Asia Minor have been properly excavated; even fewer have been published.

In order to set the streets of Asia Minor into their historical and architectural context I treated the subject generally in my opening chapters. Nowhere else, however, did the colonnaded street develop in such a variety of forms as in the provinces of present-day Turkey and it seemed appropriate to concentrate my study on that region.

For permission to examine sites, to photograph and to take measurements I am indebted to the Eski Eserler ve Müzeler Genel Müdürlüğü of the Ministry of Culture in Ankara and to the various museum and excavation directors whose sites were involved. In particular I should like to thank Dr. A. O. Tasyürek, former director of the Adana Regional Museum, for local assistance in matters of transportation and access. His help was especially appreciated during the summer of 1974 at the time of the invasion of Cyprus. I should also like to thank his assistant, Bey Rifat Ergec, now director of the Troy Museum, for help in 1975. Other kind assistance, hospitality and access to material was provided by Professor Crawford Greenwalt and Mr. Ken Frazer, Sardis excavations, Bey Sümer Atasoy, formerly of the Istanbul Archaeological Museum, Dr. H. Hellenkemper, Köln Museum, and Dr. Jörg Wagner, University of Tübingen. I have also enjoyed much useful discussion with Susan Walker, British Museum.

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CHAPTER I

COLONNADED STREETS IN LITERATURE

In the literature discussion of colonnaded streets has sometimes been reduced to a simple question: is this form of architecture eastern Hellenistic in origin or is it western Roman in origin? This question leads to another obvious, but false, problem: in what city is the earliest colonnaded street to be found?

In two important notices about the origins of colonnaded streets, the authors conclude that the type is of western Roman derivation. Lehmann-Hartleben[1] ascribes the invention to Roman architects in the Republican period when wooden porticoes were constructed along streets. This practice gave way in the first century to complexes in stone as the result of Nero's building regulations after the fire in A.D. 64. A. von Gerkan[2] also accepted the colonnaded street as an Italian invention, rejecting any association between a colonnaded street and a Greek stoa on the grounds that the latter was a self-contained building.

K. M. Swoboda[3] came to the opposite conclusion stating that Neronian architects received the idea for colonnaded streets from the Hellenistic world. In agreement were authors such as T. Fyfe[4] who claimed that the example of Antioch proved an eastern origin for the building type and L. Crema[5]

who looked for their development in eastern caravan cities where the necessities of a large volume of traffic and commerce provided the impetus for their creation. E. Egli[6] ascribed all the elements found on monumental streets to Hellenistic predecessors.

In more recent literature, authors have been less inclined to make categorical statements. D. S. Robertson[7] does not commit himself to either an eastern or western origin but confines himself to noting that the usual assumption has been that streets were first colonnaded in Syria or Asia Minor in the Hellenistic period and that the earliest evidence for one are the literary allusions to Herod's work at Antioch. He does unfortunately accept an Augustan and Tiberian date for the colonnaded streets at Diocaesareia and Soli-Pompeiopolis although architectural evidence argues against such a dating.[8] R. E. Wycherley[9] merely stated that colonnaded streets were developed in late Hellenistic or Roman architecture. He correctly saw the link between schemes of street management in the Imperial period and the use of stoas on streets in the Hellenistic period.

A more extensive discussion of colonnaded streets occurs in R. Martin's book on town planning.[10] He was not convinced either by arguments for an eastern origin or for a western one since he claimed that no Hellenistic colonnaded streets exist to support the former thesis and that specifically Roman colonnaded streets (e.g., Timgad) appear too late to support the latter claim. He rightly points out that

monumental street complexes began at least by the mid-first century in eastern cities although among the cities he cites are Attaleia and Diocaesareia for which there is no evidence of colonnaded streets at such an early period.[11] Martin's analysis leads him to conclude that the Hellenistic use of porticoes to delineate areas eventually led to the development of colonnaded streets in the particularly prosperous times of Roman rule in the eastern cities of the Empire. In these cities commercial activities and a large volume of traffic resulted in a new building type to serve these needs. In addition, Roman pageantry could be served by such architectural ensembles.

Martin's analysis of the development of colonnading along streets remains among the best up to the present time. He did not have some evidence that has recently become available but he did grasp the essential point that a Hellenistic trend was transformed and utilized in the Roman period to serve new needs and a different spirit in architecture.

J. B. Ward-Perkins[12] has also contributed to the discussion a useful, though brief, analysis of the problem. He notes that both eastern and western lines of origin and development could have been followed at the same time. M. Lyttleton[13] in her recent work followed a line of reasoning similar to Martin's and saw a link between the Hellenistic scheme of stoas sited on streets and later building practices. J. J. Coulton,[14] treating the subject in a generalized way, notes that a condition for the creation of a colonnaded street

is the recognition of a street as an architectural entity and suggests that the original plan of Alexandria may have fostered this idea.

A fundamental point about colonnaded streets has been neglected by all the authors cited above. For most of its history a colonnaded street was not a self-sufficient building type which could be equated with a theatre, odeion, bath, or even with an agora which was always contained within a definite spatial configuration. Very few of the building complexes that we call "colonnaded streets" were in fact conceived of and built according to a single all-embracing plan.[15] English usage ("colonnaded street") implies an independent building type and the result has been a search for the origins of the form in Hellenistic or Roman traditions of construction and for the first example from which all later ones derived their inspiration. In reality the monumental treatment of streets evolved gradually from the Hellenistic period to the Byzantine until in the latter period a logical conclusion was reached and the term "colonnaded street", implying an independent structure with identifiable components (roadway, colonnades, dependent structures behind and subsidiary embellishments taking the form of tetrapyla, statues and road arches) could reasonably be applied to the resulting architectural form.

The terminology used in ancient sources to describe what we call colonnaded streets reflects to a certain extent the architectural history of the form. Throughout the Roman period there is no specific term to identify a colonnaded

street either in Latin or Greek. The same word that is used for individual stoas set anywhere in a townscape is used for porticoes of any length along a street. In the Byzantine period there is a preference for the term ἔμβολος to denote a street with colonnades although this word is not used to the exclusion of all others.

In Latin authors porticus is the standard word to describe colonnades of every variety and in all periods. Vitruvius uses it in I,3,1 to refer to a portico built in conjunction with a public building. In the fourth century Ammianus Marcellinus uses porticus for a stoa of uncertain type built by the prefect of Rome, Claudius, in A.D. 374 (XXIX,6,19). The same word is used to define a colonnade along a street in XXIII,2,6 when he describes an incident that happened as Julian entered the gate of Hierapolis in Syria. The porticus on the left as he passed through the gate collapsed and the great weight of tile and timber crashing down killed a number of soldiers. The configuration of buildings - porticoes and city-gate - indicates that we are dealing in this case with a street adorned with colonnades.

Porticus is used again for a colonnaded street at the end of the fifth - beginning of the sixth century by the Anonymous Valesianus (12,71). He is describing the building program of Theodoric at Verona in the following terms:

> Item Veronae thermas et palatium fecit et a porta usque ad palatium porticum addidit.

Its use in the singular may well indicate that Theodoric

embellished only one side of the street.[16]

One Greek equivalent for the Latin porticus is στόα and like porticus it was used to refer to colonnades of all types.[17] Since the word used alone could be ambiguous, writers generally used it in conjunction with a descriptive phrase or word when referring to the colonnades along a street. Writing about the colonnaded street at Antioch ca. A.D. 100, Dio Chrysostom (Or. 47.16) describes it using the plural στόας with the additional explanation that these stoas were ἑκατέρωθεν, i.e., on both sides of the street. He is urging the citizens of Prusa to embellish their city in the same manner and refers elsewhere to the building of the same sort of arrangement in the singular as ἡ στόα (47.17). That Dio viewed the extensive colonnades of streets and individual stoas as much the same thing is implied by the sentence in which he lumps the Stoa Poikile at Athens and the Persian Porch at Sparta with the more extensive building complex at Antioch (47.17). It is obvious that a colonnaded street had not yet acquired a separate identity as a type of building.

Stoa continued to be used in the fourth century by Libanius for extensive colonnades along streets. In Or. 61.7 he describes the main street of Nicomedia as having στοῶν δύο δυάσι for its entire length, and in Or. 11, 204-7 he refers to the colonnaded streets on Daphne as στοαί.

In the fifth century the colonnading of streets for their entire length was also referred to as στοαί with the

roadway and colonnades being treated as two separate entities.[18]

In Procopius στόα is used for colonnading schemes of all types. In some cases, (e.g. De Aed. I,4,26; 6,13; 8,12) the context indicates clearly where the stoa referred to is situated and what form it takes. The three examples cited all envelop courtyards in which is set a church. But Procopius often alludes to the magnificence of a city by listing the various buildings with which it is adorned and included in these lists are στοαί. It is impossible, of course, to determine in all cases what he means by these stoas. Since, however, the stoa in its Greek and Hellenistic form as an independent structure set on open ground disappears in the Roman period, it is likely that some, at least, of his references are to colonnades along streets. For example, in De Aed. III,4,18 he is describing the progress of Melitene (Malatia, Turkey) from a camp to a city. Characteristics of its latter state are streets, stoas, baths and theatres. A similar statement is made about Justinian's building program in Helenopolis in Bithynia (De Aed. V,2,5). In De Aed. I,10,3, the reference to αἵ τε μεγέλαι στοαί is less ambiguous. Procopius states that Justinian rebuilt the great stoas from the Baths of Zeuxippus to the market-place, as well as everything on either side of them. And his reference in De Aed. IV,1,23 to Justinian's foundation of Justiniana Prima probably includes mention of the colonnaded street in the phrase μεγέθη στοῶν, since the city's

plan revolves around the crossing of two colonnaded axes.[19] In Bell. Pers. I,24,9 he refers to the colonnaded street rebuilt by Justinian in Constantinople mentioned above, in the context of the fire which destroyed this area of the city. He speaks of the porticoes in terms of two μεγάλαι στοαί which extended to the Forum of Constantine. In Bell. Goth. II,4,9 Procopius describes a colonnade in Rome which existed in Justinian's day as a στόα extending fourteen stades from a gate in the fortifications of the city to the church of St. Paul which stood outside the city.

Of particular interest for the terminology applied to schemes of colonnading along streets are inscriptions of the second and third centuries from the Grand and Transverse Colonnades at Palmyra.[20] In all cases the word στόα is used with the addition of the number of columns for that stoa. These inscriptions show that colonnading along a street was not regarded as a single entity but as a series of buildings placed one after another. The inscriptional evidence reflects the reality of the building operations since excavations have shown that the Grand Colonnade is in fact a series of porticoes having only a superficial visual unity.[21]

Another term used in Greek is ὁ ἔμβολος or τό ἔμβολον. Like porticus and στόα it was used throughout the Roman and Byzantine periods in a variety of ways, but there is some evidence that by the fifth century ἔμβολος did come to signify more often than not the colonnades along a street. In the Hellenistic and Roman periods, the word could refer to

a columned hall, an individual stoa sited anywhere, a courtyard or longer lines of colonnading along a street.

The term is used in an inscription from Delos of the third century B.C. to refer to a stoa.[22] An inscription of the Roman period from Thyateira in the Roman province of Asia mentions the ἔμβολοῦ τῆς κρατίστης βουλῆς.[23] In this case ἔμβολος must be understood as some sort of building, presumably with columns in which the boule of Thyateira met. The colonnading on the street at Gerasa is referred to as an ἔμβολος in an inscription of the sixth century carved on a column to commemorate το ἔργον τοῦ ἐμβόλου.[24] It is not clear in this case how much of the portico is meant.

More problematical is an inscription of Domitianic date carved on the south gate of the agora at Ephesus in which the paving of the ἐνβόλου is mentioned.[25] We do not know whether the paving was that of a street between colonnades, a peristyle courtyard or a columned building. Since the inscription was placed on the gate to which a street led, a likely interpretation would seem to be that the ἔνβολος refers to colonnades along the street which ended at the gate. How extensive this colonnading was or whether we are dealing with one stoa beside the street or a more extensive scheme is impossible to reconstruct. An alternative would be that the ἔνβολος refers to the enclosed agora into which the gate opened. By the third century this quarter within the city had come to be known as Ἔμβολος.[26] The inhabitants were known as Ἐμβολεῖτου.

An inscription from Sardis seems to imply that by the

fifth century ἔμβολος could be understood as an entire building complex consisting of roadway, colonnades and shops behind.[27] The inscription describes the building of an ἔμβολος from a street called Hypaepa to the Tetrapylon and records that the whole area was cleared out and an earlier gate removed to facilitate the building operations. In this case, we have the actual remains that go with the inscription and it is obvious that the colonnades and paving were all conceived of in one operation. The writer of the text did not seem to see any need to describe the building of roadway and porticoes on either side in any more detailed way since the readers would presumably understand all the elements in the word ἔμβολος.

The word does not appear in literature until the Byzantine period. It still could refer to porticoes in various types of building complexes[28] but very often was utilized in contexts about streets.[29] Malalas (III, 232.16) uses the word in the plural about the extensive colonnades along the main street at Antioch which he says were built by Tiberius. These are definitely porticoes making up a colonnaded street since Malalas mentions that the greatful citizens of Antioch set up a statue to the emperor in the roadway between the ἔμβολοι. In contrast to the inscription from Sardis, Malalas describes a colonnaded street in terms of two porticoes implying that ἔμβολος was not understood by him to describe the entire complex of colonnades and roadway. The same terminology is used by Sophronius, Patriarch of Jerusalem, when

he describes the colonnades of the street at Alexandria.[30]

The occurrence of ᾽έμβολος at a much earlier date in inscriptions may have influenced its later utilization in literature. ᾽Έμβολος could well have been the official term for structures along a street in public records, from which it passed into the literature when these public records became source material for Early Byzantine writers.

This brief and by no means exhaustive survey of literary and inscriptional evidence for the terminology employed to describe the building arrangements on streets leads to the conclusion that throughout the Roman and Byzantine periods a colonnaded street was generally not understood to be an independent complex in which the roadway and enveloping porticoes necessarily formed a single unit. The inscription from Sardis is an exception and reflects an historical reality. As we shall see, colonnaded streets built according to one overall plan are a relatively late phenomenon in the Classical world.

In the writings of Louis Robert there is a misconception that the term ἡ πλατεῖα necessarily signifies a colonnaded street.[31] There is no evidence that this word necessarily conveyed the idea that the street referred to would be bordered by porticoes. Its meaning is that of a main avenue[32] and is appears that it was generally considered to traverse the entire city.[33] Such a concept precludes its having the connotation of a colonnaded street since many streets accorded special architectural status were not long and not main

thoroughfares.

Also arguing against Robert's thesis is the Hellenistic example from Stratonicaea which he includes in a long list of inscriptions referring to a πλατεῖα.[34] He claims that the inscription's Hellenistic date does not preclude a meaning of colonnaded street for the term since Antioch and Alexandria had such street-schemes by then. The evolution of colonnaded streets, however, does not support his view. No exact date is given for the inscription but there is no evidence for Antioch at least that the streets were adorned with porticoes until the very end of the Hellenistic period. For Alexandria definite evidence for colonnaded streets exists only from the Roman period.

This term, moreover, like the others we have been considering, requires an elaboration when colonnaded streets are the subject. Robert himself provides an example from Hermoupolis in which a πλατεῖα is described as having παρ' ἑκατερα νοτινῆς καῖ βορινῆς στοῶν.[35] It is unlikely in the extreme that by the Hellenistic period a reader would understand all the elements of a colonnaded street in the one word when an elaborate description was required to convey the idea much later in the Roman period.

When the term is utilized by Vitruvius, the emphasis is on the conception of size that the word conveys.[36] It is used in contrast to angiportus and not every street of a size to be called plateia can have been colonnaded. It is true that often, especially in the small-sized cities of the eastern

Mediterranean the street or streets which qualified for the title of plateia, awarded on the basis of size, would have also been colonnaded but this is merely coincidental.

A final note about ancient terminology concerns the architectural form known as the Via Tecta. Athenaeus (Diepnosophistae 12.519c) lists among the things which make the Sybarites notorious for their luxury roads which have roofs: ἦσαν δέ τινες αὐτοῦς καὶ τῶν εἰς τοὺς ἀγρους φερουσῶν ὁδῶν κατάστεγοι. The writer is composing his work in the first half of the third century and referring back to the city of Sybaris in what must be the sixth century B.C. since it was destroyed in 510 B.C. by Crotona. That Sybaris had roofed roads in the sixth century B.C. is perhaps not likely since nothing comparable remains in the Classical Greek world. More likely is that Athenaeus, to prove his point about the Sybarites, looked around him and chose luxurious indulgences of urban architecture and applied these anachronistically to the Sybarites. The roofed passageway at Pergamon[37] provides such a source of inspiration for his fanciful application. Even in the Augustan period individual porticoes were considered as symbols of public extravagance and luxury by Velleius Paterculus.[38] From literary sources two Viae Tectae are known in Rome in the Republican period.[39]

Via Tecta was not applied to streets with adjacent colonnading in ancient sources. A Via Tecta appears to have been a street, probably quite narrow, covered over with a barrel or groin vault. Republican warehouses and later

Trajan's market, incorporate the essential elements of a Via Tecta and the atmosphere of such a street can be recaptured today in the Kapılı Çarşa in Istanbul.

Notes to Chapter I

1. K. Lehmann-Hartleben, "Städtebau (in Italien und römiche Reich)," RE III A2, cols. 2059 ff.

2. A. von Gerkan, Griechische Städteanlagen (Berlin, Leipzig 1924) pp. 66, 135, 139-140.

3. K. M. Swoboda, Römische und Romanische Paläste (Vienna 1919) pp. 36, 251.

4. T. Fyfe, Hellenistic Architecture (Cambridge 1946) p. 83.

5. L. Crema, L'Architettura Romana (Enciclopedia Classica III. Archeologia e storia dell'arte Classica. XII. Archeologia. Arte Romana) (Torino 1959) p. 166.

6. E. Egli, Geschichte des Städtebaues. Erster Band. Die Alte Welt (Erlenbach-Zürich, Stuttgart 1959). See his comments on Palmyra and Gerasa, pp. 241 and 244.

7. D. S. Robertson, Greek and Roman Architecture (2nd ed. Cambridge 1971) p. 291.

8. See pp. 207-235 and 316-356 for the streets at Diocaesareia and Soli-Pompeiopolis.

9. R. E. Wycherley, How the Greeks Built Cities (London, Melbourne, Toronto 1967) pp. 32, 117.

10. R. Martin, L'Urbanisme dans la Grèce antique (Paris 1956) pp. 217, 220.

11. See pp. 422 and 207-235.

12. See his article, "The Art of the Severan Age in the light of Tripolitanian Discoveries," PBA 37 (1951) pp. 297-298 for a clear presentation of his ideas.

13. M. Lyttleton, Baroque Architecture in Classical Antiquity (London 1974) pp. 214-215. She is, however, mistaken in citing the stoa with zoomorphic bull's head capitals at Ephesus as an example of such a stoa on a street. This colonnade is, in fact, part of a basilica. See W. Alzinger, "Das Regierungsviertal" in H. Vetters (ed.), "Grabungen in Ephesus von 1960-1969 bzw 1970," JÖAI (Beiblatt) 50 (1972-75) pp. 254-258 and p. 255 n. 60.

14. The Architectural Development of the Greek Stoa (Oxford 1976) pp. 177-180.

15. Exceptions such as Timgad will be discussed on pp. 64-68.

The Severan streets at Lepcis Magna and Constantinople begin a new era in the management of streets and look forward to town-planning of the Byzantine period.

16. The lay-out of the colonnade leading from the gate to the palace reminds one of the urban configurations of royal residences such as Constantinople or, on a smaller scale, the palace of Diocletian at Split. That Theodoric should have built in the style of his Imperial colleagues in the East is not surprising when one recalls that he spent ten years in Constantinople and had ample opportunity to study the forms of architecture used to enhance important cities of the Empire. For Theodoric's admiration for Roman building forms see, G. T. Rivoira, Roman Architecture and its Principles of Construction under the Empire (Oxford 1925) (trans. G. McN. Rushforth) p. 199.

17. For a general discussion of the use of στόα with some references to the colonnades along streets see G. Downey, "The Architectural Significance of the Use of the Words 'Stoa' and 'Basilike' in Classical Literature," AJA 41 (1937) pp. 194-211.

18. D. Claude, Die Byzantinische Stadt im 6. Jahrhundert (Munich 1969) p. 54 where the author quotes a law from the Syrian-Roman law book in which it is specified that the streets and the στοαί which go through the city are for all the people.

19. See C. A. Ralegh Radford, "Justiniana Prima (Tsaritchin Grad): a 6th Century City in Southern Serbia," Antiquity 28 (1954) pp. 15-19.

20. J. Cantineau, Inventaire des Inscriptions de Palmyre III (Beyrouth 1930) p. 4, no. 1; pp. 34-35, no. 27; V. pp. 7-8, no. 3; pp. 15-16, no. 8; p. 17, no. 9.

21. See pp. 84-86.

22. IG IX^2 161D, line 118.

23. G. Radet, "Inscriptions de Lydie," BCH 11 (1887) p. 474, no. 45.

24. CIG III 4662b.

25. Forschungen in Ephesus III pp. 99-100, no. 8. See also J. Keil, "Zum Martyrium des Heiligen Timotheus in Ephesus," JÖAI 29 (1934) p. 88.

26. J. Keil, loc. cit.

27. C. Foss, Byzantine and Turkish Sardis (Cambridge, Mass.,

London 1976) p. 115, Source 18 and pp. 21-22, 45.

28. For its use to refer to one portico of four making up a τετράστοον see, C. Mango, The Art of the Byzantine Empire: 312-1453 (New Jersey 1972) p. 36. See also G. Downey, "On Some Post-Classical Greek Architectural Terms," TAPA 77(1946) pp. 22-34.

29. For several examples of ἔμβολος used in various sources to refer to the streets of Constantinople see R. Guilland, Études de topographie de Constantinople byzantine II (Berlin, Amsterdam 1969) pp. 69-76. Note especially in connection with the inscription from Sardis the phrase quoted on p. 77 in n. 37 where the singular is used to denote the two colonnades: μὴ ἐζέλθουσα εις τὴν μέσην του ἐμβόλου.

30. For the text see C. Wachsmuth, "Zur Topographie von Alexandria," Rheinisches Museum für Philologie 42(1887) p. 464.

31. He states this thesis repeatedly e.g., "Les Inscriptions grecques de Bulgarie," Revue philologique 3rd S. 33(1959) p. 223; Études Anatoliennes (Paris 1937) pp. 529-535.

32. For a discussion of the word see J. André, "Les noms latins du chemin et de la rue," Revue des études latines 28(1950) pp. 104-134.

33. Ibid., p. 131.

34. Études Anatoliennes pp. 529, 534.

35. Ibid., p. 535 n. 4.

36. Vitruvius I. vi, 1 and P. C. Hamberg, Acta Arch. 36(1965) pp. 106-107.

37. Fig. 40.

38. Compendium of Roman History III. 1, 1-2.

39. M. E. Blake, Ancient Roman Construction in Italy from the Prehistoric Period to Augustus (Washington 1947) p. 130, n. 1, "Via Tecta ad Aedes Martis" (189 B.C.); L. Homo, Rome impériale et l'urbanisme dans l'antiquité (Paris 1951) pp. 397-398.

CHAPTER II

THE TREATMENT OF STREETS IN THE HELLENISTIC PERIOD: EAST AND WEST

Roman and Byzantine architectural practices for the treatment of main roadways are firmly rooted in the traditions of the Republican West and of the Hellenistic Greek world. While it must be remembered that the architectural traditions in these two areas are not mutually exclusive and that certainly from the second century B.C. onwards the architecture of Italy belonged very much to the Hellenistic tradition, nevertheless there existed specifically Italic town-planning traits that looked ahead to the results achieved in extensive schemes of street colonnades.

By the third century B.C. the siting of shops (tabernae) along roadways had appeared in Italic architecture.[1] The acceptance of stoas into the architectural repertoire soon resulted in the combination of stoa or arcade in front of a row of shops along a roadway.[2] As Boëthius points out the combination of shops with stoa in front is common in the Greek world as well from the fifth century B.C. onwards but the difference is that this combination tended to be found in a specialized area, the agora, and was not sited throughout the town creating decentralized commercial areas.[3]

The excavations at Alba Fucens have revealed an application of these shops with dependent stoa in front to main thoroughfares in the city plan (Plan 1).[4] The Via dei Pilastri and two other streets in the centre of the town were paved and provided with sidewalks a a portico with piers carefully aligned with the walls between the tabernae. These embellishments date to the time of Sulla. Important for our purposes is the decentralization of the commercial zone evident here and the application of a unified format in the civic centre of the town. A desire to enhance the visual appearance of street edges is evident since these colonnades are not in any way structurally essential.

A Hellenistic practice that contributed to the development of the Roman colonnaded street was the siting of extensive stoas along streets; in the Greek world there are remains extant at several sites.[5] In the Republican West there is only literary and epigraphic evidence for the early appearance of juxtaposed streets and long colonnades; the earliest archaeological evidence is from Alba Fucens in the first century B.C. In Rome itself access routes to important buildings are known to have been lined with stoas by the first half of the second century B.C. Livy (XXXV, 10, 12) reports the construction in 193 B.C. of a porticus from the Porta Frontinalis to the altar of Mars. When writing on the events of 174 B.C. (XLI, 32) he records that the censor contracted for the paving of the road from the Forum to the Capitol and for the construction of a portico leading from the

temple of Saturn to the Capitol and then on to the Senate House. They also paved the portico that led from the Porta Trigemina to the Aventine.

Elsewhere in Italy the same trend is apparent soon after. An inscription of ca. 120 B.C. from Alatri in Latium[6] records that a private citizen, Lucius Betilienus Varus, among many other public works, paid for the construction of a porticus for people to use while en route to the citadel. The implication seems to be that this was more than a short length of portico since people are described as using it as a route to the citadel.

Moreover, the use of visual effects or punctuation points, of the sort that played such an important role on streets in the Imperial period, is documented for Republican Rome in Livy (II,13) where he mentions that an equestrian statue was placed at the top of the Sacred Way.

Despite the evidence that such Hellenistic Greek trends were appearing in Republican Roman architecture it seems reasonable to suppose that their effect for town-planning was less in the West than in the East. As late as the Augustan period Vitruvius (I,3,2 and VI,2,1) talks in terms of individual public buildings saying nothing about architectural groupings or the visual relationships between buildings. The problem of siting a building for him was one of finding the best possible location for the individual monument.

In the Hellenistic Greek world related developments were occurring and played their part in the evolution of new

planning arrangements for streets. These trends, however, are for the most part, confined to the Greek mainland and the major cities on the west coast of Asia Minor. With the exception of the building programs initiated at the very end of this period by Herod the Great[7] which were in the mainstream of monumental Hellenistic architecture, there is little else apparent in the pre-Roman remains of the cities of Roman Syria that could have had much of an influence on subsequent monumental street arrangements despite the fact that it was in these very cities that some of the most grandiose complexes were later realized. Most relevant is the lack of evidence for any extensive use of stoas in the monotonous grid systems of Seleucid foundations.[8]

In discussions of architecture and the arts, Hellenistic Alexandria often figures prominently as a source of inspiration for new developments. Usually the results are inconclusive since so little concrete material has survived.[9] It is impossible to assess the probable Alexandrian contributions to monumental street-management. Strabo tells us that the Hellenistic lay-out of the city included a 30 m. wide main avenue but beyond that there is no evidence for particular embellishments for this or any other main street before the Roman period (Geog. XVII,1,8,10).[10] That Alexandrian building had much in common architecturally with the cities of western Asia Minor is suggested by Strabo in XVII,1,8 where he describes the palaces and public monuments built by each succeeding ruler as being all connected one to another. This

would imply an extensive use of colonnading to form connecting links between the various complexes. That elongated stoas were used to define the outlines of streets in Alexandria is indeed likely but ultimately unprovable.

The Greek equivalent of the Italic tabernae is the stoa with shops behind. Such stoas are known from the fifth century B.C. onwards[11] and reach considerable architectural magnificence in the South Stoa at Corinth[12] and the Stoa of Attalos in Athens.[13] The combination was most often used, as at Corinth and Athens, to define the increasingly regularized shape of the agora. In the Roman period the type was to lose its status as an independent building set in an open space and become a unit within the continuous facade of a street. This change is pre-figured in the use of three or four stoas with shops behind to define the enclosed courtyard of an agora of Ionian type.[14]

Other Hellenistic building trends in Greece and Asia Minor have a more pertinent bearing on streets in the Roman period. Considerations for creating architectural settings on a large scale included attention being paid to important roadways. There is a tendency towards enclosure by the use of facades along the edge of the road, thus creating an appearance of distinctiveness and embellishment for major thoroughfares.

At Priene a process of continuous architectural development over a period of time resulted in a short but very decorative stretch of street in the heart of the public area

(Plan 2). The first step was the erection, ca. 130 B.C., of the Sacred Stoa defining the north side of a main east-west axis in the city at the point where it led past the agora. The cost of construction was covered by an individual donor, King Ariarthes VI of Cappadocia. Its length, 116 m., provides a good example of how extended monumental stoas could be employed to delineate a specific area since it embellished the exact portion of roadway which formed the northern boundary of the agora. On the other side of the street a shorter stoa, 41.80 m. long and having shops behind, was constructed sometime in the second half of the second century B.C.[15] The portico of this side complemented the colonnading of the east end of the Sacred Stoa and for this short stretch the architectural format for streets that one meets repeatedly in the Roman period is already in evidence. The effect, however, of the confronting colonnades is somewhat diminished since the Sacred Stoa is preceded by a flight of six steps and a landing 6.47 m. wide. Hence the colonnades did not face each other at the same level. One should note also that the entrance into this street bordered by colonnades was through a single-arched gateway.[16]

On the theatre terrace at Pergamon is an architectural ensemble which achieves the visual effect of a street enclosed by colonnades to a much greater degree than at Priene (Plan 3). The narrow terrace is served by a straight road

250 m. in length, leading from the two-arched gateway at its south end to the Temple of Dionysus at the north end. The presence of the temple at one end imparts to the roadway the character of a Sacra Via (Pl. 1a).

On the west side of the roadway is set a Doric stoa, 246.50 m. long, extending for almost the whole length of the street. For a part of its length it is complemented by another Doric stoa on the east side of the road. The latter is only 75 m. long but for this distance we are dealing in effect with a colonnaded street. That the builders were sensitive to the architectural unity they were creating seems certain from the fact that the same order was used for both stoas.

It should be noted too that other essential elements in more fully developed street-management schemes are already present here. The street begins at a monumental gateway[17] and although the stoas and gateway are not yet joined into one building complex, it was a small step from this arrangement at Pergamon to the bringing into alignment of the porticoes and the passages of a gateway so that the porticoes actually abutted against the gate building. Moreover, the street ends at a definite architectural mass, the facade of the Temple of Dionysus, which acts as a terminal visual point dominating the vista as one looks along the street. The construction of the various elements took place in the course of the second century B.C.[18]

On Delos a similar architectural accumulation resulted in a colonnaded Sacra Via leading to the Sanctuary of Apollo

but in this case the order of construction was such that the roadway was the result of rather than the starting point for the building program. In the mid-third century B.C. a Doric stoa known as the South Portico was constructed to the south of the Sanctuary of Apollo facing the harbour.[19] Philip V paid for the construction of another Doric stoa between the South Portico and the harbour. The new stoa was exactly aligned with the South Portico and the area between the confronting colonnades became an enclosed roadway about 60 m. in length leading to the sanctuary. The Stoa of Philip was begun ca. 210 B.C.[20] Once this roadway had thus become established as the monumental approach to the temple area, a propylon was constructed by the Athenians in alignment with the roadway and leading from it into the sanctuary. In keeping with the order of the flanking porticoes, the propylon is also Doric.[21] Hence, construction over a hundred years resulted eventually in a complex on a very small scale incorporating the monumental elements of schemes in the Roman period.

At Ephesus[22] (Plan 4) there is a relevant configuration of buildings reported for the Hellenistic period but the information cannot at present be checked on the ground. Forming the exit from the commercial agora is a monumental gateway of Augustan date consisting of a large flight of steps and a columned facade, providing a transition between the differing ground levels inside and outside the agora. Immediately outside this gate an area 24 m. wide was paved and a

Doric stoa, 6 m. wide, was constructed on the north and south sides of this paved area. Shops existed behind the porticoes. The inscription recording the construction of the stairs (τῆν ἐκ τῆς στοᾶς ἀνάβασιν φέρουσαν εἰς τῆν τετράγωνον ἀγορὰν)[23] indicates that one stoa at least was in place before the construction of the gateway. This inscription was originally identified as Domitianic but more recent analysis of the architecture here has resulted in a firm dating of the gateway to the Augustan period.[24] Hence, a pre-Augustan date for the thoroughfare and flanking porticoes is likely although a more precise chronology is not possible.

The paved area between the colonnades would have been a cross between a thoroughfare and an elongated square or piazza since the main access route from the harbour to the public area, the Arkadiane, lay parallel and just a little north of this roadway. Through traffic would probably have taken the main street while those interested specifically in reaching the commercial area would have proceeded along the route leading to the West Gate. It is likely that this commercial emphasis accounts at least in part for the flanking colonnades with shops. The enormous width of 24 m. suggests that the original Hellenistic concept saw this area more as a piazza than as a roadway. A more symmetrical arrangement of the elements found at Assos is perhaps the most likely explanation. But the area's very nature and placement before a gateway leading into another defined area would also have imparted to it the character of a street and hence, its

role as a stage in the evolution of street-management becomes apparent.

In Athens itself there is less evidence of stoas being utilized in the Hellenistic period in ways that formed part of the natural process in the evolution of schemes of street-enclosure. The ability of a stoa to act as a masking device to unify independent facades was, however, exploited in the second century B.C. when the new Metroon was constructed in the Agora.[25]

It was at one time thought that the stoas lining both sides of the Panathenaic Way as it enters the agora at the north-west corner were constructions of the end of the first century B.C. or the beginning of the first century A.D.[26] Subsequent research, however, has shown that the stoa on the south side of the roadway belongs to the Trajanic period[27] although the stoa on the north side has not yet been redated. Its construction was similar and it is more than likely that we have in Athens an example of street management from the Roman period on a less monumental scale than is usually encountered.[28]

Thus in Hellenistic Priene, Pergamon, Delos and Ephesus we can see in operation the tendencies towards monumental street management that were soon to become characteristic of Imperial townscapes. At Pergamon especially the independent public buildings are brought into an architectural relationship involving gateway, stoas and temple. The formal planning of thoroughfares was already well under way in the

second century B.C. It was left to the architects of the Roman period to continue to view the city essentially as a whole within which the individual architectural components such as temples, theatres, gymnasia and nymphaea were to be linked by unifying elements which defined and embellished the public sector and provided a visible framework for the social life of the city.

In more general terms architectural trends that involved more than just streets foreshadowed the characteristics of Imperial civic architecture. At Pergamon especially we see monumental urban architecture being used as an expression of Attalid power and wealth. The ability and desire of strong centralized governments to utilize architecture as symbol has been well discussed by R. Martin for the Hellenistic period and R. Brilliant for the Roman.[29] This urban architecture was characterized by careful planning of large areas so that unified architectural ensembles and relationships among buildings could be created. The nature of the stoa as a building type meant that it was used extensively to serve the needs of the new urban architecture. These principles, when applied to streets, resulted in the grandiose Imperial complexes which unified and defined entire city centres.

Notes to Chapter II

1. See A. Boëthius, The Golden House of Nero (Ann Arbor 1960) pp. 79, 138, 140-142, 146, 158 for discussion and references to rows of shops lining the streets of Republican Rome, Ostia and Pompeii.

2. Ibid., pp. 67-68, 71 n. 70, 81, 138 fig. 73, 143 fig. 77, 144 fig. 78, 157 for references to examples in Italy.

3. There are, of course, exceptions in the Greek world. At Assos we find shops on a street south-west of the agora area, J. Clarke, F. H. Bacon, R. Koldewey, Investigations at Assos (London, Cambridge, Leipzig 1902) p. 33 fig. 4; at Olynthus, P. M. Robinson and J. W. Graham, Excavations at Olynthus VIII. The Hellenic House (Baltimore, London 1938) pp. 211-213 and Pl. 93; at Delos, J. Chamonard, Exploration archéologique dé Délos VIII. Le quartier du théatre (Paris 1922) pp. 66, 207-213 and Pls. I-II. These shops were situated on the most frequented of the roadways, 'Rue de Théatre' and 'Rue 5'. In the late fifth or early fourth century B.C. at Corinth there was a colonnade with shops behind set on the west side of the Lechaion Road at a point near the entrance to the agora, H. Robinson, Urban Development in Ancient Corinth (Athens 1965) p. 15 fig. 11 and H. N. Fowler and R. Stillwell, Corinth I. Introduction, Topography, Architecture (Cambridge, Mass. 1932) pp. 212-228.

4. J. Mertens, Alba Fucens I. Rapports et Études (Études de Philologie, d'archéologie et d'histoire anciennes publieés par l'Institut Historique Belge de Rome, XII) (Brussels, Rome 1969) pp. 19-21, 60-62, 73-75, Pls. XIX-XX and Plan II.

5. See pp. 38-43.

6. CIL X^1 5807.

7. For Herod's palace at Masada which is a good example of Hellenistic construction adapted to and taking advantage of a terraced site in the tradition of Pergamene planning see, M. Avi-Yonah et. al., Masada. Survey and Excavations 1955-56 (Jerusalem 1957). Also see below pp. for Herod's building at Antioch which included a monumental treatment of the main street. For his building at Samaria-Sebastê, see J. W. Crowfoot, K. M. Kenyon, E. L. Sukenik, The Buildings at Samaria (London 1942) pp. 32-35, 123-128. Also Josephus, Bell.Jud. I, 401-425 for a list of his benefactions in several cities. The emphasis is on the monumental and decorative rather than on the strictly functional.

8. The first instance of an application of monumental architecture to streets at Antioch was done by Herod the Great. Hellenistic Dura-Europus does not exhibit any traces of

special treatment for any of its streets nor any use of porticoes. See the plan of the Hellenistic city, P. V. C. Baur and M. I. Rostovtzeff, The Excavations at Dura-Europus. Preliminary Report of Second Season of Work Oct. 1928 - Apr. 1929. (New Haven, London 1931) Pl. XXX; For lack of porticoes in the Seleucid agora, M. I. Rostovtzeff, A. R. Bellinger, F. E. Brown and C. B. Welles, The Excavations at Dura-Europus. Preliminary Report of the Ninth Season of Work 1935-36. Part I. The Agora and Bazaar (New Haven, London 1944) Figs. 9-11 and pp. 3-27.

9. For a recent example see M. Lyttleton, Baroque Architecture in Classical Antiquity (London 1974) Chapter 4, "Developments in Alexandria" for the possible contribution of Alexandria to Roman Baroque architecture.

10. For the colonnaded streets in the second century see Achilles Tatius, V,1.

11. South Stoa I, Athens. See, H. A. Thompson and R. E. Wycherley, The Athenian Agora XIV. The Agora of Athens (Princeton 1972) pp. 74-78.

12. O. Broneer, Corinth I,4. The South Stoa and its Roman Successors (Princeton 1954) pp. 18-94 and Plan X.

13. Thompson and Wycherley, op. cit., n. 11, pp. 103-108.

14. R. Martin, Recherches sur l'agora grecque (Paris 1951) pp. 392-408 for examples from Miletus, Priene, Magnesia-on-the Meander.

15. For these constructions see M. Schede, Die Ruinen von Priene (Berlin 1964) pp. 49-57 and Th. Wiegand and H. Schrader, Priene. Ergebnisse der Ausgrabungen und Untersuchungen in den Jahren 1895-1898 (Berlin 1904) pp. 185-205.

16. M. Schede, op. cit., n. 15, p. 55 fig. 66.

17. For another example of a Hellenistic gateway at the beginning of a Sacra Via see Th. Macridy-Bey and Ch. Picard, "Fouilles du Hiéron d'Apollo Clarios à Colophon," BCH 39 (1915) fig. 3. The gateway was built at the beginning of the second century B.C. and stood at the head of the approach to the Temple of Apollo.

18. For the Theatre Terrace at Pergamon see R. Bohn, Altertümer von Pergamon IV, Die Theater-Terrasse (Berlin 1896) pp. 41-77.

19. R. Vallois, L'Architecture hellénique et hellénistique à Délos I. Les monuments (Paris 1944) pp. 65-68.

20. For the Stoa of Philip V see R. Vallois, Exploration

archéologique de Délos. Les Portiques au Sud du Hiéron. I. Le Portique de Philippe. (Paris 1923) p. 162 and figs. 3 and 20.

21. R. Vallois, op. cit., n. 19, p. 238.

22. E. Reisch, Forschungen in Ephesus III (Vienna 1923) pp. 2, 18-19, 32-38, fig. 56; H. Hörmann, "Das Westtor der Agora in Epesos," JÖAI 25(1929) pp. 22-53.

23. E. Reisch, op. cit., (n. 22) pp. 96-97.

24. W. Alzinger, Augusteische Architektur in Ephesos (Vienna 1974).

25. H. A. Thompson and R. E. Wycherley, op. cit., (n. 11), p. 36 fig. 10.

26. Ibid., pp. 108-110.

27. T. Leslie Shear, Jr., "Stoa on the Panathenaic Way," Hesperia 42(1973) pp. 359-378.

28. See pp. 93-94.

29. R. Martin, L'Urbanisme dans la Grèce antique (Paris 1956) pp. 135-136, 146, 163, 289-90. R. Brilliant, Roman Art from the Republic to Constantine (London 1974) passim. The same circumstances resulted in the achievements of Egypt in the field of monumental architecture. See P. Lampl, Cities and Planning in the Ancient Near East (New York 1968) p. 32.

CHAPTER III

TRENDS IN MONUMENTAL STREET MANAGEMENT FROM AUGUSTUS TO SEPTIMIUS SEVERUS

> On the other hand, there is advantage when a city becomes good-looking, when it gets more air, open space, shade in summer and in winter sunshine beneath the shelter of a roof and when, in place of cheap squat wrecks of houses, it gains stately edifices that are worthy of a great city, the purpose being that, just as with well-bred colts and puppies, those who see them can forecast their future height if the legs are long and sturdy, whereas if they are short and stunted men say they will always remain so, thus it may be also with our city.[1]

The words of Dio Chrysostom reflect the attitude of a wealthy citizen in a Roman provincial city towards public architecture. Such architecture was an adornment to the city and provided one standard by which the city's worth could be judged. The physical environment created by the structures within a city thus expressed the values and images that its citizens had of themselves and their community. The buildings of a Roman city reflected to a great degree a high standard of convenience, organization and planning, all of which contributed to the conception of civilized life associated with them.

Urban design in the Roman period reveals that architects and planners were viewing the city as essentially a whole within which the individual architectural components could be linked by unifying elements to form one vast ensemble.

In the cities of the eastern half of the Empire colonnading was the major method employed to create the over-all pattern for the townscape.[2] In some cases the unity of the entire city was emphasized by two crossing arteries colonnaded for their entire length[3] or by colonnading of such an extensive nature that the entire extent of the city was defined by an architectural embellishment.[4] In other cases a unit or units within the city were chosen for the application of this design. A section of street joining two important points was reworked with colonnades. The most common termini for such ensembles are a city gate joined to the agora[5] or a temple joined to another structure.[6]

The ultimate achievement of all these schemes is the coherence that results in the townscape. The landmarks within a city were easily identifiable and mental images of the city could easily be formed. The enclosure created by a continuous or almost continuous facade along a street controlled human movement and visual perception since both were directed toward the architectural termini of these streets. Hence colonnaded streets modified the surroundings and enveloped public activities in a framework.

Building types evolve to serve the specific needs of the people in a city. One need has always been to find solutions for the chronic urban problem of providing enough space for a large population and a large number of activities. In the schemes we see applied to streets in the Roman period there is an efficient use made of available space for intensive

commercial activities without an unsightly conglomeration of buildings of different sizes and shapes which would have ruined the visual aspect of the city. The shops were generally uniform in size and shape and occupied the same relative location with easy access to thoroughfares.

Social activities were also served. The natural conviviality of the citizens of the Mediterranean was satisfied in these arrangements. All the shops in close proximity resulted in congregation and the porticoes provided natural areas in which to spend time. This was a continuation of the social function served by the independent stoas of the Classical and Hellenistic periods. Both Josephus (Ant. XVI, 148) and Libanius (XL, 215-216) recognized the functional needs served by such porticoes in reference to Antioch. Libanius especially praises the sociability the porticoes encourage. He says that people who live in cities without porticoes in front of their doors are separated by winter and might just as well be living in different places since inclement weather keeps them inside like prisoners. But in Antioch no rain or snow can keep the citizens apart--they have their porticoes!

It has been said that in the Byzantine period there was a shift in the placement of markets from the agora to the streets in the form of shops behind the colonnades.[7] The emphasis in this argument is incorrect since the decentralization of shopping areas is a phenomenon observable from the earliest phases of monumental street management in the Roman period.

At Palmyra construction of the porticoes with shops behind in the Transverse Colonnade began in the first half of the first century A.D. At Corinth the first poros colonnade with shops was also built at this period as an additional commercial area adjacent to the agora. And at Athens in the Trajanic period the Panathenaic Way at the point where it enters the north-west corner of the agora was lined with porticoes having shops behind. In addition, a small street for shopping was created parallel to it.

The position within the plan of the Severan colonnaded street at Samaria-Sebaste is particularly important in this regard. It did not join together public groups of buildings or even pass through the civic centre but was a creation ex nihilo in the lower southern portion of the town. Providing access to a city gate at its west end, its main purpose and function was as a commercial street. The shops, carefully and regularly built behind both porticoes, formed an accessible and well organized shopping district.

Thus by the early Imperial period the centralized zoning of Greek cities was already giving way to commercial areas extending throughout the city recalling the Italic tradition of mixed tabernae and habitation.

One must again turn to a literary source for the most evocative description of decentralization and its effect on the community. Libanius (XI, 251-253) devotes a long section to the advantages for Antioch resulting from the colonnaded street with shops behind extending for the entire length of the city.

Shopping for all the citizens was easy since each neighbourhood was served by local markets and there was consequently no need for a specialized market area somewhere within the city. Since so much space was available for commercial activities, the citizens had the additional benefit of a particularly wide selection of goods to choose from.

For the Roman period the two approaches often co-existed in cities where commercial activity was great. Side and Perge both have extensive schemes of street colonnades with shops as well as large commercial agoras of peristyle type. Cities that were major ports or centres of industrial activity or pilgrimage would have required extended facilities from the earliest days of their economic prosperity.

In addition to the commercial and social practicalities inherent in street colonnades there was a symbolic and religious connotation for Imperial monumental streets whose most important function was as a Sacra Via or Processional Way. This continued the Classical and Hellenistic tradition that had set apart a Sacra Via either by its width or by its decoration or by both.[8] Continuing and developing the architectural format we have seen on the Theatre Terrace at Pergamon, Roman planners adopted the roadway enclosed by colonnades as the pattern for the Imperial Processional Way whose terminus was a temple important in the city's religious life.[9]

An interesting amalgam of spatial lay-outs which underlines the Roman practice of creating maximum visual impact by completely enclosed and directed approaches to sacred areas is

the approach to the Temple of Zeus Olympios in Site C at Salamis on Cyprus (Plan 5).[10] The temple stands on a high podium at one end of what is called a courtyard. Two stoas, 217 m. in length, confront each other across an open area 60 m. in width. The length and over-all effect of the colonnaded area leading up to the temple is that of a colonnaded street although the area preceding the temple is actually its fore-court. In this case it is difficult to draw the line between a Sacra Via and a colonnaded court with its temple at one end since the shape has been elongated to such an extent, presumably to bring out the axial and symmetrical visual properties inherent in the scheme.

The Sacra Via is not always one of the main thoroughfares within a city. Hence its architectural embellishment in these cases is the result of its special function. At Pergamon the Processional Way leading from the city to the Asklepeion was embellished in the second century with colonnades having shops behind.[11] In the absence of definite archaeological evidence one can only speculate that the commerce in these shops was related to the sanctuary. Votives, medicines and souvenirs could well have been sold here.

In Damascus (Plan 6) a short stretch of roadway which was neither the principle cardo nor decumanus led from the agora to the Temple of Zeus. This straight, very limited extent of road was given in the second century a monumental treatment that created an architectural ensemble consisting of agora, temple and enclosed roadway.

At Palmyra the most grandiose of the Imperial Sacrae Viæ was developed in the course of the second and early third centuries having as its destination the Temple of Bel.[12] It is a good illustration of the point that architectural display could be lavished on Sacrae Viae which were not important also for their position as access routes through the city since the main north-south commercial route was through the wadi, not along the Grand Colonnade.

A more modest undertaking occurs at Cyrene where the Sacra Via leading north-west from the civic centre to the Sanctuary of Apollo and associated religious edifices was lined on one side only with individual porticoes of the Doric and Corinthian orders. The street bends as it follows the contours of the land so that the porticoes are accommodated to fit the straight portions of roadway. A standard element closes the vista along the street at the entrance to the sanctuary area in the form of the arch built in the Antonine period.[13]

At Gerasa (Plan 7) the monumental terraced approach to the temple of Artemis included as the first element in the ensemble a short east-west colonnaded street on the east side of the cardo. This road served only as the starting point for processions which would cross the cardo and then proceed through the propylon and up the monumental staircase to the terraces of the temple. On the other hand, the monumentally embellished cardo had a dual function since it is the main north-south traffic artery for the city and its southern portion provides access to the sanctuary of the Temple of Zeus.

The practical and symbolic roles fulfilled by the cardo at Gerasa are paralleled in the roles played by the Transverse Colonnade at Palmyra[14] and the decumanus at Petra which led to the sanctuary known as the Qasr el-Bint.[15]

The idea inherent in, and the effect created by Roman Processional Ways have not disappeared. Their impression can be experienced today in London along the Mall during a ceremony such as the Trooping of the Colour or in Toronto along University Avenue whose architectural lay-out incorporates many of the aesthetic considerations found in Roman planning. The street runs in a straight north-south line from Lake Ontario to the provincial Parliament Buildings set on the axis of the roadway. For the mile between the lake and the Parliament Buildings, the street is three times the average width of Toronto's main thoroughfares. The central portion dividing the two lanes of traffic is a carefully planted boulevard with trees and flowers. Closing the vista at the north end of the street is the impressive mass of red stone which is the focus and raison d'être for the special treatment of this section of the street. Lining the street on both sides are large and stately public buildings.

Before proceeding to deal with individual cases of monumental street-management which illustrate trends in the early Imperial period a final point about the general background for these architectural manifestations ought to be made. R. Martin's study[16] had pointed out one of the fundamental points about Classical Greek and Hellenistic planning. On the

whole all the roadways in Greek cities were fairly consistent in terms of width and treatment. This is especially true of Seleucid grids such as the one at Dura-Europos.[17] In Roman planning one idea that gained great currency was that of two crossing axes which formed the basis of the city's plan.[18] This was, of course, not the only format followed in Roman city planning as Castagnoli carefully points out, but it was a scheme that was often applied especially in new foundations when conditions were ideal for such symmetrical arrangements. Eastern cities acquired this particularly Roman characteristic in a visually striking way when two crossing axes were singled out in the pre-existing plan and embellished with colonnades. Gerasa's cardo and decumanus (Plan 7) provide a good example of such colonnading clearly articulating a city plan now based on four quadrants although these are unequal in size since the main north-south street follows its ancient course west of the centre of the city.

The Continuation of the Italic Tradition

In the Imperial period the Italic traditions for street embellishment that we have looked at in Chapter II continued to be followed on both a small and a large scale right up until the Severan period and later. Especially in the West the scale of the towns and the streets within them provided little opportunity for the schemes of architectural embellishment constructed in the eastern half of the empire. The main streets were never colonnaded with structures on a grand scale and

additional structures such as nymphaea and tetrapyla are rare. The scheme that was most easily adaptable in these towns was a continuation of the practices found in Republican Rome, Ostia and Alba Fucens. Porticoes were provided for the fronts of rows of tabernae, sometimes for the length of a city block, sometimes for only a portion of it. At each intersection the colonnade ended and so no continuous regularizing schemes defining the length and breadth of a town were created.

In keeping with the small scale of the towns themselves, limited projects were undertaken in the civic centres. At Vaison-la-Romaine (Plan 8) a portico employing the Tuscan order was built in the front of a row of tabernae on the "Rue Centrale". The street, being only about 4 m. wide precluded the construction of a similar arrangement on the opposite side of the street where the shops open directly on to the roadway.[19] Of its type this is a fairly extensive project since the portico unifies an entire city block which was lined with shops for most of its length and a house at the south end. The portico thus masks disparate forms of street frontages and creates a uniform facade along a main thoroughfare of the town.

Other western towns to receive such embellishments in the first and second centuries were Augusta Raurica in Gaul and Velleia in North Italy.[20]

In Rome and Ostia, where this format had been in evidence from Republican times, the tradition continued. For Rome we have the evidence of the Forma Urbis Romae of c. A.D. 200 which shows porticoes, generally on one side of the street only,

forming a facade for rows of shops or for houses.[21] In Ostia in the Hadrianic period brick porticoes were added to the main streets, in some cases on both sides, to create a more monumental setting for the centre of the town.[22]

More interesting to observe is the utilization of this Italic type in cities and towns far removed from the area of its origin when analogous conditions were found. At Sirmium in Yugoslavia[23] a portico was built to serve as a facade for a row of workshops in the south-west sector of the city. Despite the fact that the roadway was 11 m. wide here, only one side of the street was treated in this way. It is likely in this case that a purely functional role was required of the portico. It was needed to provide a sheltered area for selling the wares made in the workshops behind. In this location it was not a question of unifying or embellishing the civic centre of the town.

In the eastern provinces Dura-Europus provides an excellent example of this Italic form of Romanization transforming the aspect of the city.[24] Short stretches of street colonnades of varying lengths were built in the course of the second and first half of the third centuries. The reorganization of street frontages took place on the roads in the area of the agora and imparted a degree of uniformity and embellishment to the civic centre.

In North Africa, this particularly Italian form of building enjoyed widespread use throughout the Roman period. Lacking any strong tradition of urban architecture, the towns

in the African provinces provided a ready field for the application of architectural types brought from abroad. At Hippo Regius arcades of Italic type were built along the cardo and decumanus maximus in the centre of town near the Forum. These streets were only 5.50 m. wide so the arcades were placed on one side only.[25] At Cyrene in the Severan period a row of tabernae with portico in front was set on a street.[26] And at Timgad a house by the Forum has a portico forming its facade on to the street,[27] as does the facade of the villa said to be Gordion's at Tipasa.[28] The Ionic portico with a regular row of shops behind opens on to the decumanus maximus with the entrance to the palace taking the place of one of the shops.

At Djemila, Volubilis and Tipasa there are examples of more extensive use being made of such Italic porticoes on main streets with the result that almost continuous rows of columns or pillars define long stretches of road. But these lay-outs differ fundamentally from the monumental schemes to be considered. In every case individual stretches of portico are tied to and dependent upon the buildings behind. These are usually houses and the porticoes appear to be undertaken at the householder's expense with a resulting lack of harmony in the visual effect. A portico of columns may have as its neighbour an arcade of piers. The size varies from portico to portico and in general the proportions are small and the elements of simple and even poor quality so that monumentality is not achieved. These porticoes were really porches for the

houses behind and the sidewalks for pedestrian traffic were invariably found between them and the street. Hence they did not form the public thoroughfare for people on foot and were not part of any comprehensive treatment of the street.

The main street known as the Grand Cardo at Djemila (Plan 9) as well as Cardo III and Cardo IV were bordered by such porticoes. The Grand Cardo especially shows a successive application of porticoes to the facades of the buildings on both sides of the street but the heavier piers in alignment with the end walls of each building reveal their constructional dependence on what lies behind them. In one case on Cardo IV a portico was built so that it encroached upon the pavement of the roadway itself. The owner of the house, in his eagerness to decorate his facade, did not hesitate to take over some of the thoroughfare.[29]

At Volubilis the decumanus maximus was treated in the same manner as the Grand Cardo at Djemila, with porticoes of differing orders and dimensions forming the frontages of houses.[30] The building in this quarter of the city began in the Severan period and continued until the Diocletianic. The organization of the streets and the building of the first houses seem to have been part of a new growth in the city since in the same period the forum was rebuilt and the monumental arch dedicated to Caracalla was constructed. Italic porticoes appear to be one element marking the moderate affluence of the town.

The streets bordering the House of the Frescoes at

Tipasa also have porticoes on both sides consisting of piers for arcades (Plan 10). At the intersections excavated the porticoes break off. The implementation of these architectural features took place in the mid-second century.[31]

In northern Syria there is a tradition in the local architecture which has close affinities with Italic types. Examples from several market towns in the area known as the Djebal Bãrishã were reported in the publications of H. C. Butler at the beginning of the century[32] but no further studies of their antecedents or chronology have been undertaken.

In these Syrian towns (e.g., Dêr Simᶜân, Bãbiskã, Ruwêha, Djerâdeh) are found long rows of small rooms in two stories set parallel to a street. In front of the rooms is a two-storied facade of piers carrying straight architraves. Since the roadways were generally quite narrow, this arrangement usually was found on only one side of the street although a few cases are reported of two such structures facing each other across a street and thus creating an enclosed street. The dimensions of these bazaar buildings are generally modest. The total length of the building ranges from 20 to 40 metres and the porticoes in front have a width of ca. 3 m. Stone was used throughout for the construction.

The similarities with the Italic tabernae are striking. Examples dated by inscriptions are all late, belonging to the fourth and sixth centuries and it is possible that the type developed here as the result of indirect influence from Italic forms in cities such as Dura-Europus rather than following an

autonomous evolution.

Thus the Italic tradition of street-embellishment on a small scale had a long and geographically wide-spread history in both the East and West[33] and survives to this day in a city such as Bologna. The North African sites show the particular applicability of these porticoes for residential quarters where they served to enhance the appearance of private houses.

The Italic Tradition Monumentalized: Rome, Timgad, Italica

When conditions within a city were favourable, either in entirely new foundations or in the larger, more prosperous cities of the Western Empire, architectural embellishments directly related to the Italic schemes we have been looking at were created. They were built over an extensive enough area within the city and with enough architectural unity to achieve in large measure the visual effect found in the cities of the Eastern Empire, but their discontinuous colonnades, their often squat proportions and their relationship to the buildings behind rather than the street in front mark them out as merely grander versions of the Italic tradition. Their geographical distribution supports their derivation from Republican roots since the type appears first in Neronian Rome and then in Trajan's foundation at Timgad and in Spain in the Hadrianic reworking of Italica. The only appearance in Asia Minor of a monumental form of Italic street porticoes is at Hierapolis-Pamukkale.

Nero's Sacra Via[34] (Plan 11)

The Italic practice of placing rows of tabernae with porticoes in front along streets was systematized and incorporated into an official building code for Rome by Nero after the fire of A.D. 64.[35] From Tacitus we learn that Nero's regulations pertained both to the laying out of broad streets and to porticoes added as protection along the fronts of insulae. It is interesting to note that Tacitus's wording relates the porticoes to the buildings behind them and not to the roadway in front. Roadway and porticoes were obviously not thought of as creating an architectural unit.

In the Neronian replanning of the Sacra Via between the area of the Forum Romanum and the Domus Aurea, we see a process of regularizing the entire quarter west of the Domus Aurea by the use of a repetitive element on the road's edge. The total length of the arcaded portion of the street was approximately 200 m. Van Deman reconstructed the appearance of the porticoes from the remains of concrete foundations, bases, traces of paving from the roadway and sidewalks and fragmentary voussoir blocks. The roadway itself was 30 m. wide and had on each side a raised sidewalk for pedestrians outside the arcades. These sidewalks formed an intermediate element between arcades and porticoes, effectively lessening the impact of enclosure that the roadway would have had if the arcades had been set directly on the street. Each sidewalk had a width of 5 m. including the steps leading up from it into the arcade. The arcades themselves consisted of

a double row of piers which supported the groin vaulting of the covered passageway. The facade on to the street presented an arcade embellished with an order that has been restored on the basis of proportions and the presence of plinths as Ionic.[36] These arcades formed the continuous facade for large columned halls of which the one on the south side of the street is known to have taken up the entire block between the Via Sacra and the parallel Via Nova. In the Italic tradition, the arcades owed their existence to the buildings behind them and were not independent structures forming part of a roadway ensemble. Nevertheless, their effect created an imposing approach to the entrance of the Domus Aurea whose architectural embellishment apparently harmonized with that along the street.

One feature utilized in this building program is not, however, characteristic of the Italic form of street-management. The Sacra Via is cut by a north-south road approximately one-third of the way from its western end. At the intersections the arcading was not discontinuous but was carried over the perpendicular roadway by means of an arch supported on massive travertine bases. Arches thrown over intersecting roadways are a characteristic of eastern planning found, for example, in Palmyra and Apamea.

Also to be noted is the scale of undertaking which involved not only the relevant portion of the Sacra Via but the entire quarter situated in front of the facade of

Nero's palace. At the east end of the Sacra Via the arcade turned the corner and continued along the west side of the Clivus Palatinus. On the Via Nova, which ran parallel to the Via Sacra, traces of a similar arcade have been found on the north side of the street. The south side lacked a portico in front of the regular row of shops fronting on to the street. The Via Nova being only 6 m. wide was more typical of streets in Rome which generally could be embellished only on one side.

Timgad and the Architecture of Camps[37] (Plan 27)

Planned and built at one time as a colonial foundation of ca. A.D. 100, the central core of Timgad exhibits an application of Italic street-management on a large and unified scale. Within the square outline of the walls, two crossing streets, only 5 m. wide, define the grid system and join four gates in the city wall. On the cardo and decumanus we find uniform stone colonnades of the simple Tuscan order for the entire length. These colonnades are, however, discontinuous at the intersections and their proportions are squat and heavy, conferring visual unity but little elegance to the appearance of the street.

More than one architectural influence would seem to be at work in the lay-out of these streets. In the first place Timgad was a colonial foundation planned, built and settled by people whose roots were for the most part in the

West. Specifically Italic forms of architecture would have been well-known to them including the stone street-side porticoes that must have resulted in Italy from the Neronian building legislation for Rome.

Epigraphic evidence, moreover, dating from the time of foundation, tells us that the colony was built by the Legio III Augusta. Military planners. therefore, may well have been responsible for the over-all lay-out as well. By the Flavian period porticoes, ultimately inspired by town architecture in Italy, which lined the via praetoria and via decumana of camps were common. Inchtuthil, a one-period legionary fortress of Domitianic date, had wooden porticoes with shops behind lining the two main streets as did Vetera which dates to the mid-first century and Novaesium which was built sometime in the first century. The strong military orientation of the colony at Timgad makes one suspect that the decumanus here was treated with a stone translation of the modest structures that had already been appearing in camps for at least fifty years.

An even earlier example of this development appears in the colonial foundation at Lincoln (Lindum Colonia) which had been preceded on the site by military camps. The colony was set up at the end of the first century, most probably in the reign of Domitian. In lay-out it is like Timgad with two crossing axes joining four gates in

the walls. Portions of a stone colonnade lining both sides of the north-south street have been preserved.[38]

The example of Timgad's main street seems to have set a pattern for subsequent military foundations in Africa. The large camp at Lambaesis, for which a consensus of opinion favours a Hadrianic foundation date,[39] was built as the headquarters for the Legio III Augusta, the legion responsible for the construction of Timgad. The square lay-out was governed by two colonnaded axes whose architectural details are so poorly preserved that it is impossible to determine how closely the order on the streets corresponded to that on the cardo and decumanus at Timgad.

When Thamusida was built in the reign of Marcus Aurelius, its via praetoria was lined with porticoes of a constructional type found in Italy. The shafts of the columns were made up of semi-circular bricks that were covered with stucco.[40]

Italica[41] (Plan 12)

As Cassius Dio tells us (LXXIX,10,1), Hadrian rebuilt Italica with the intention of giving it an appearance worthy of an Imperial city. Hence the building forms with which it was endowed have something to tell us about the architectural styles current in the Hadrianic period. It would be interesting to know how much Hadrian himself,

with his pretensions to architectural expertise, was involved with the planning and selection of the building types in the city since Italica after its refoundation acquired a distinctively Italian appearance particularly as the result of the treatment given to the edges of the roadways.

The grid plan of the city was based on a cardo maximus 16 m. wide and decumani 8 m. wide. The cardo for its entire length and several of the other streets throughout the city were paved and flanked on either side by covered porticoes 4 m. wide. These porticoes are carried on piers supporting arcades. At each intersection the arcades are discontinuous. The uniformity of the application of this system meant both that each rectangular insula was defined on all sides by an arcade forming a continuous facade for all structures within its bounds and that the entire city had a visual coherence based on the repetition of a single facade-type throughout.

Of relevance to all schemes of street-management is a point that emerges from a consideration of these monumental applications of the Italic type of street. Rome, Timgad and Italica were all foundations built under the auspices of the Emperor who could deploy the financial resources and manpower necessary to plan and construct large undertakings involving entire streets within a city. At Volubilis, Djemila and Tipasa the results of private enterprise in no way compare favourably with imperially spon-

sored projects.

Street-Management in the First Century in the East

In the first century B.C. there is a hiatus in our knowledge of the treatment accorded to streets. After the evolution we observed at Priene, Pergamon and Delos, the archaeological record is silent until, in the final years of the first century B.C., literary information provides evidence for a continuation at Syrian Antioch of the Hellenistic architectural trend which saw the exploitation of elongated stoas in the Classical orders and costly materials to create specialized effects on important streets.

Antioch-on-the-Orontes[42] (Plan 13)

Except for fragmentary traces of the architecture found in excavations along the main street we are dependent for our knowledge of the colonnaded street at Antioch upon literary sources. These sources have been collected and discussed fully by two authors, J. Lassus and G. Downey.[43] The crux of the problem resulting from the statements of the two main sources, Josephus and Malalas, is whether the building of the colonnades on the street should be attributed to Herod or Tiberius. Downey, who favours the evidence of Malalas over that of Josephus, is inclined to attribute the actual colonnading to Tiberius with Herod's

portion of the work being confined to the paving. Another possible solution he suggests is that the work on the street was begun when Tiberius was in the East in 20 B.C. and that it was a joint operation on the part of the two men ultimately inspired by a desire to honour Augustus and carry out his wishes in regard to building in important provincial cities. He dismisses Josephus's explicit statements that Herod built the colonnaded street as the result either of confusion when utilizing his sources or of a desire to credit Herod with as much as possible, even to the extent of falsifying the record.

Lassus is less inclined to dismiss the evidence of Josephus who was writing at a time much closer to the construction of the street and he makes a case for Josephus as one of Malalas's sources. According to Lassus Malalas, using several sources, ran into difficulties when he encountered references to Tiberius's connection with the work and resolved these by dividing up the responsibility between Herod and Tiberius, the former contributing paving and the latter colonnades. He then goes on to make a very valid point about such an undertaking. The time necessary in order to complete both paving and colonnades along a street 3000 m. in length would be long. That Herod began work on the street and colonnades and that the construction carried on until the reign of Tiberius is not at all inconceivable. When the street was completed, it would have been natural to set up a statue of the reigning emperor in a prominent place as reported by Malalas (233.3). In many of the streets we shall be looking

at, honorary statues of the Imperial family played an important role as decorative elements.

There is an additional piece of evidence not stressed by either commentator that supports Lassus's suggestion that construction lasted through two reigns. Josephus specifically contradicts himself in the two passages referring to Herod's work. In Bell. I,425 he states clearly that Herod paved the street and embellished it with a portico of the same length as the street. He uses στόα in the singular thus leading us to suppose that Herod embellished only one side of the street. In Ant. XVI,148, however, he says that Herod built porticoes on both sides of the street. He was either being careless in utilizing his sources or was misled in the second passage to attribute two porticoes to Herod since in his day the street was bounded on both sides by colonnades. In terms of town-planning in the late Hellenistic period, Josephus's first statement could conceivably represent Herod's contribution to the work, the paving and a functional portico extending along one side to provide shelter from rain and sun as well as a decorative facade. After work was completed a second benefactor ordered a matching facade for the other side of the street. Whether this was paid for by Tiberius or by Herod himself who decided to enlarge his building program beyond its original dimensions cannot be ascertained but the explicit references to Tiberius in Malalas indicate that the final completion of the project occurred in that Emperor's reign. It would appear from the literary sources, confusing and contra-

dictory as they are, that at Antioch, as at Pergamon, Priene and Delos, we have an instance of gradual embellishment occurring over an extended period of time and resulting finally in a complete enclosure for the c. 3000 m. of the street. For our purposes the designation Herodian-Tiberian provides the chronological information needed to place the first monumental reworking of Antioch's main street in the over-all development of such schemes.

Prior to the Herodian-Tiberian street excavations have revealed no noteworthy constructions. Limestone blocks formed a simple sidewalk and in places there are traces of rooms which may have been shops. It appears that at some point in the Hellenistic period there was paving at least in some parts but these traces occur several levels below the Herodian-Tiberian pavement. Between the two there are layers of gravelled roadway. The Hellenistic paving may be connected with the creation of the new quarter of Epiphania by Antiochus IV which would have required the extension of the main street beyond the confines of the original Seleucid settlement. In this period the road had a width of 7.20-7.40 m.[44]

When the Herodian-Tiberian building program was begun, it is clear that this roadway was already the major thoroughfare of the city in terms of traffic although not of architectural treatment. The architecture applied to it merely served to underline a fact of the city's lay-out, not to reorganize the plan by choosing a main street. Since the direction followed is from north-east to south-west, in Roman plan-

ning the street could be considered either as a cardo or decumanus. Libanius treated it as the latter since he says it runs east-west. The excavators treat it as a cardo. The exact length of the embellished roadway within the confines of the city is disputed and cannot be recovered with exactitude.[45] Estimates in ancient sources vary and some, such as Dio's 36 stadia, must be exaggerations. The colonnading scheme was, however, among the most extensive examples known to us, being at least 3000 m. in length.

What cannot ever be recovered unfortunately is the nature of the architecture which made up the structures built by Herod and Tiberius. Only the barest traces were found. Excavations have shown that the sidewalks were widened from their Hellenistic width of 1.30 m. to 4.30 m. A piece of stylobate was found carrying the marks of the column which had stood upon it.[46] No other details of the architecture are available to us. Lassus postulates that the architraves were of wood though he gives no reasons why this should be so.

A small piece of evidence in Sector 16-P does suggest that the Herodian-Tiberian porticoes were constructed on a less monumental scale and perhaps out of less durable materials than the later stone and marble schemes. Earthquakes in the reigns of Caligula and Claudius necessitated a reconstruction of the street. A trench in 16-P revealed a pavement over the Herodian-Tiberian one reusing pieces from the earlier streets and apparently not accompanied by any porticoes.[47] Literary evidence (Malalas 246), however, indicates that

guilds in the city were, in the reign of Claudius, defraying the costs of repairs to porticoes by payment of a hearth-tax. The statement is ambiguous and Malalas might be saying that Claudius relieved them of having to do this. Despite the problem about Malalas's exact meaning it does seem that some porticoes at least were being repaired in the mid-first century. The implications of the archaeological and literary evidence would appear to be that where, as in 16-P, the porticoes were completely overturned the Claudian rebuilding did not include their re-erection. Only the roadway was repaved. Where the damage was less repairs to the porticoes were undertaken, apparently at the expense of those engaged in commerce in the shops along the street.

G. Downey stresses the Romanization that occurred in Antioch from the mid-first century B.C.[48] A policy of monumental building, including distinctively Roman forms such as an amphitheatre and basilica, was pursued by Marcius Rex, Pompey, Antony and Julius Caesar. In the reign of Augustus when Antioch became the capital of the now Imperial province of Syria, this policy was continued. Herod probably drew inspiration for his project for Antioch's main street from Hellenistic formats in existence for example at Pergamon. But Roman symbolism and propaganda quickly took their place in the overall scheme. At the north-east end of the street Tiberius constructed what came to be known as the Eastern Gate. On top of it stood a statue group having a Roman theme-the she-wolf suckling Romulus and Remus. The honorary statue

to Tiberius set prominently between the colonnades also served to emphasize the cultural milieu in which the street had been embellished and set the trend for Imperial statues as street ornamentation throughout their history.

Palmyra[49] (Plan 14)

In Palmyra the application and expansion of Hellenistic practices for streets commenced by the mid-first century. Streets to which porticoes were applied served two purposes within the townscape, sacred and commercial, reflecting the major concerns of the planners of the large first century building program which included the temples of Bel, Baalshamin and Nabo..

It has become apparent that the Transverse Colonnade, originally thought to date from the second century because of inscriptions on the consoles, was in fact laid out in the first century as a commercial market as well as a thoroughfare whose importance was determined by its position leading to the Damascus gate and the caravan route outside the walls. The Hellenistic city-wall had occupied the line later followed by the Transverse Colonnade. Elements from the demolished wall were used in the construction of the shops and an inscription fround in the debris pushes the foundation of this shopping area back to the mid-first century.[50] The Damascus gate at which the road terminates also dates to this period.

The method of construction for the colonnade seems to have resulted in a long delay for its completion since the existing architectural decor and honorary inscriptions on the consoles of columns in the section next to the Grand Colon-

ade date from the first three quarters of the second century. Private donors sponsored a portico of a few columns presumably up to the amount they could afford. Inscriptions attest to porticoes of six, seven or eight columns paid for by local citizens.[51] An interesting feature of these donations recorded on the columns is their religious content. Porticoes are dedicated "in honour of 'Samš, Allat and Rahim", gods worshipped in the city. Gawlikowski interprets this fact as proof that the Transverse Colonnade had a sacred as well as a commercial character. I am not convinced by his arguement since the position of this street within the townscape is between a city gate and an area of houses and tombs. It may be more likely that for the Palmyrenes religious scruples dictated contributions to public projects much as Christian ethics have often motivated people to give money to charities and "good causes". In cities more permeated by the Greco-Roman cultural ethos we find porticoes and other public buildings donated in honour of the Imperial family or as the result of election to office or, more simply, to promote a citizen's own image among his fellows. That the Palmyrenes preferred to honour their gods in their donations does not necessarily make of the Transverse Colonnade a religious monument.

The dispositions on the roadway made it ideally suited as an area of heavy traffic and large crowds occasioned by its function as a thoroughfare for commercial caravans and as a market. The width of the roadway itself was 22.30 m.

while the porticoes were each 6 m. wide. The shops were built behind both porticoes. (The average width for colonnaded streets is about 12 m. and for the porticoes 4-5 m.) Its length was only 230 m., the result of its function to define only a limited area. At its southwestern end at the Damascus gate it widens out into an oval piazza around the edges of which the columns continued. This configuration is probably the result of traffic pressures at a busy gate and is a phenomenon that has been studied for medieval European cities.[52] At the town gates the streets often widened out to allow for the development of markets at the most convenient place for country people coming in to sell their produce. The Italians have designated the resulting space a "largo".

The order of the colonnades is Corinthian but since the published capitals all belong to the second century phase of building, discussion of the architectural decor is best left to the section on later developments at Palmyra.

Also in the first century there is evidence for the creation of a colonnaded Sacra Via in the area later developed as the "Camp of Diocletian" in the northwestern quarter of the city (Plan 15). The main public building in this primarily residential sector was a Temple of Allat, a predecessor of the one known to have been rebuilt in the mid-second century. The concept of a temple grouped with houses is reminiscent of a medieval parish but it is impossible to know if similar cultural forces were at work. Gawlikowski calls this area a new suburb established probably to accommodate the

increase in population but he does not make clear whether the Temple of Allat was established here at the same time or existed on the spot earlier.[53] Leading to the temple's facade are the remains of colonnades on both sides of the road. Only two fluted columns are in position but the foundations for both porticoes remain.[54] Evidence for dating this early street comes from six Palmyrene inscriptions found built into late walls in the area. One fragment mentioned the construction of a colonnade of six columns and is dated to the mid-first century. Two inscriptions on consoles which presumably were originally on the columns of this street also belong to this period.[55]

The extent of this street appears to have been quite limited running from the cross-roads where the Tetrapylon was later located to the Temple. It was traced for about 80 m. and in contrast to the broad Transverse Colonnade is only 6.15 m. wide.

The architectural decor belonging to these colonnades is in keeping with the early dating. The limestone Corinthian capitals are of a heterodox Pre-Vitruvian type.[56] The fluting on the columns is a link with the Hellenistic past and is paralleled in Palmyra only by the fluted columns surrounding the naos of the temple of Bel which date to the first half of the first century.

This Sacra Via with its colonnaded edges provided the starting point for later developments here which saw the creation of two colonnaded cross-streets with a tetrapylon at

the intersection. These streets defined the north-western quarter and formed the backbone of what became in essence a Roman camp in the Late Antique period.

A third colonnade along a street, as yet unpublished was apparently constructed in the first century.[57] This street represents an important thoroughfare from the pre-Roman plan of the city leading as it did to the Efca spring. It joins up with the oval piazza around the Grand Tetrapylon at an oblique angle and bears no relation to the grid system established in the north-western area of the city. What the exact role of this street was, commercial, religious or purely an access route, cannot be ascertained nor can we determine what form the colonnading took until further publication.

The Palmyrene efforts at street management in the first century reflect the continuation of a Hellenistic tradition in the embellishment with colonnades of a Sacra Via as at Pergamon and the introduction of a format more characteristic of the Roman period in the construction of a commercial street using for its basis the portico/shop element. It is possible that the constructions at Palmyra were directly inspired by the work at Antioch on the Herodian-Tiberian period. A Greek architect trained at Antioch has been suggested for the Temple of Bel.[58] It is worthwhile to note finally that as far as can be determined additional embellishments are all a product of the next two hundred years of building in the city. Street architecture in its first phase concentrated only on the colonnades lining the borders.

Gerasa[59] (Plan 7)

The developments at Gerasa in the first century reflect, as at Palmyra, the rapid adoption of methods for defining and monumentalizing main thoroughfares. The planning of street-architecture seems to have been an integral element as soon as monumental expansion and building began to occur. Epigraphic evidence indicates that in the second quarter of the first century private donors, usually Greek in origin, started to contribute to building projects in the city.[60] As usual, money was first directed towards religious structures but the enhancement of at least a portion of the main streets appears to have been part of an over-all plan that included two temples and the access ways to them.

There is a difficulty in ascertaining whether the grid system was imposed or simply made use of at this time. The excavators argue that the cardo and two main decumani were laid out in the early first century because the gates, for which there is inscriptional evidence, were constructed in this period.[61] There is, however, no reason why the lay-out that we see in the Roman period is not earlier. Gerasa has a Hellenistic background connected with the Seleucids and it would be indeed surprising if a regular street-plan were not imposed then. The city gates and walls which were built in the first century would necessarily have been adapted to the given conditions. In favour of assuming an earlier existence for the major streets is the fact that the cardo is the continuation within the walls of the highway connecting Petra to Bostra and Damascus. The different orientation of the Temple

of Zeus and of the south end of the cardo cannot be used as proof that the grid must have been imposed after the start of construction of the temple in the second quarter of the first century. The temple complex might well have kept its original position for sacred or traditional reasons. There are caves connected with this temple and one thinks of the cave governing the situation of the temple in the otherwise symmetircal complex at Lindos as a possibly parallel case.

What is certain is that in the course of the first century a distinctive image was imposed on the townscape by the imposition of a comprehensive scheme along the edges of the main streets and open piazza. There is absolutely no inscriptional evidence for the colonnading of the streets and oval piazza but that it was part of the same project that saw the building of the complex dedicated to Zeus seems certain and hence can be dated to the first century. The excavators point out that the oval piazza (called the "Forum" in Kraeling) forms the first element in the system of approaches leading up to the Temple of Zeus. The same basic lay-out was utilized in the next century to create the imposing approach to the Temple of Artemis though the outlines of the latter are more regular, lacking the curved element introduced by the shape of the piazza. The piazza is an artificial creation of this period since sondages in it reveal early Roman fill brought in to level the area before construction. Its paving is carefully fitted into the foundations of a tower forming part of the precinct of the Temple.[62] Hence its construction

must fall in the second and third quarters of the first century since inscriptions referring to donations for the building of the temple complex cover this period. The oval shape of the piazza was given a definitive outline by the placement of an Ionic colonnade along its edge.[63] The order is the same as that used for the decoration of temple and precinct. By inference the Ionic colonnade along the north section of the cardo from the North Tetrapylon to the North Gate and along the northern decumanus is dated to the same period when the Ionic order seems to have been the standard type for all monumental building in Gerasa.

The use of Ionic for street colonnading is found in only three other examples: on one side of the main street at Perge and on the Processional Way to the sanctuary area at Pergamon, both dating to the second century and neither likely to have been influenced by Gerasa, and at Bostra in the Severan period. The choice of order in the last example may well have been in conscious imitation of its neighbour. Of more general interest is the choice of Ionic for this whole period of monumental building. Gerasa is inland and remote from the other major centres in Roman Syria. In the early Imperial period, Baalbek, Palmyra and Petra were utilizing various forms of Corinthian almost exclusively. No identification of the source of Gerasa's marble has been made by the excavators but that it came from Asia Minor seems most probable. The craftsmen to work the marble probably came from here as well since marble architectural fragments from

the Hellenistic period are lacking entirely. Local building traditions must have been in limestone. Unfortunately no detailed study of the first century architectural pieces has ever been undertaken so any suggestions can be only tentative. When one looks to the monumental projects of Asia Minor in this period, the Ionic order appears frequently in the repertoire especially at Ephesus where the Augustan gate to the commercial agora, the Harbour Gate and the lower two orders of the theatre, Domitianic in date, all feature this as the free-standing order. The choice at Gerasa may well have been influenced by the order in general use at the source of the marble supply.

The problem that cannot be entirely resolved, as at Antioch, is the extent of the work done along the streets in this period. The cardo is 820 m. long and the Ionic order now exists only in the northern third with Corinthian appearing from the North Tetrapylon to the entrance to the Forum. Ionic is also found along a portion of the northern decumanus. The Corinthian work along the cardo is securely set in the second century and will be discussed in the section dealing with that period. The excavators assume that the cardo and two decumani were at one time entirely provided with Ionic colonnades which were then replaced in part with the Corinthian order in the second half of the second century. On stylistic grounds this does not appear to be true for the Corinthian capitals from the southern decumanus which are in no way related to those of the cardo.[64]

Excavation has not been undertaken to prove their hypothesis. It is true that the road is wider in the Corinthian section (12.30-12.60 m. as opposed to 11 m.) and there is a slight bend just north of the Temple of Artemis but neither of these transformations necessitates the prior existence of an Ionic colonnade. Several possibilities in fact exist. The excavators may be correct in their assumption that Ionic once stood along the entire length of the cardo and was partially replaced by Corinthian half a century later. Ionic may have been planned for the whole street and piazza but never entirely put into place. The construction perhaps began at either end of the city and a change in taste in favour of Corinthian resulted in an alteration in plan for the remaining portion whose importance in the heart of the city now demanded a more grandiose arrangement. The original plan of the first century may not have been so comprehensive as it now appears to the excavators. The colonnades of the piazza and those of the northern section of the cardo may be two entirely different projects designed to serve different needs. The piazza-cum-Forum forms part of the Zeus-temple complex and as such was enveloped with a portico in keeping with the decor of the temenos. At the northern end of the cardo separate forces may have dictated the need for colonnades along the street, perhaps as a separate commercial area like the Transverse Colonnade at Palmyra. Excavations have not revealed whether shops existed behind the colonnades here. The order of the Forum is at least 1 m. smaller than that

along the street so certainly no uniform visual effect was envisaged if the Ionic colonnades had been planned for the whole length.

The time factor was not really considered by the excavators when they dealt with the building program at Gerasa. Hence they were able to create arbitrarily an Ionic colonnaded street superceded by a Corinthian one only fifty years later, ignoring the fact that the complex dedicated to Zeus took at least fifty years to build.[65] The temple's dedication did not in fact take place officially until A.D. 163.[66] This date is connected by the excavators with a hypothetical rebuilding but even this may not have occurred. It must be remembered that on the inscriptional evidence the civic building here was entirely dependent upon private donors who were local citizens. Their willingness to pay and the amount of their resources must certainly have had a bearing on the speed with which building could occur here. In the sanctuary of Baalshamin at Palmyra columns from one colonnade were donated twenty-eight years apart[67] so if one stretch of portico can take that long to construct, street-side porticoes could well have taken many decades to build in their entirety. And it must be remembered that the Grand Colonnade at Palmyra was built in three successive stages which took approximately 150 years to complete.

The remains at Gerasa may well reflect an ongoing process that took much time and eventually resulted in the Severan period in the townscape that is visible today.

We know that in the Domitianic period the Corinthian order appears at Gerasa in the South Theatre.[68] The southern decumanus was defined by stoas in the Corinthian order. Whether they extended for the entire length of the roadway west of the cardo was not ascertained by excavation. The colonnades are assumed in the publication to be the same date as those along the cardo but the style of the order is so markedly different that it is difficult to see how they could have been carved at the same time.[69] The height and symmetrical rather than indented outline of the acanthus leaves recalls the format found on capitals such as the example from the Temple at Soueida and the Kondakoff capital from Soueida,[70] although the capital from Gerasa has a much livlier and naturalistic appearance since the leaves are not so flat against the bell. Unusual is the complete lack of helices, the particularly vigorous and heavy volutes and the fleuron resting only partially on the abacus. All these archaizing features are too individualistic and extraordinary to be considered merely the whim of one carver working in the second century when Corinthian capitals had achieved a high degree of standardization in the placement and organization of the individual components. It is much more likely to be an example of first century work and thus would date the stoas of the southern decumanus to approximately the time of the appearance of Corinthian in the Domitanic theatre and make of them a second stage in the continuous process of street-management at Gerasa.

An assessment of the work done here in the first century allows us to make some important observations about the trends in street management up to the period of Trajan. The first is that again at Gerasa, as at Antioch, the process is a slow one in terms of the number of years taken and does not seem to result from an over-all plan. Gradual accretion of colonnades tends to result in increased enclosure over wider areas but the buildings are constructed at various times and in various styles. Also important to note is that subsidiary elements of decoration have not yet made their appearance. The three-arched monumental gates leading from the cardo to the piazza, the tetrapylons, the statuary, the nymphaeum and special facades are all additions of the next century. Street management in the first century, when it did occur, appears to have involved the application of a continuous facade along certain outlines but further elaboration is lacking. The result at Gerasa saw at least the beginning of a distinctively Roman townscape inasmuch as the main axes which formed the backbone of the city plan were set apart by their distinctive treatment from other thoroughfares.

Analogies with monumental building in Palmyra in the same period are present. In both, concentration of effort took place in two main fields, sacred and commercial. The temples of Zeus and Artemis at Gerasa and the temples of Bel and Baalshamin at Palmyra were among the first buildings to receive monumental treatment. At the same time the porticoes with shops of the Transverse Colonnade were constructed to

form a coherent bazaar area. The Ionic portion of the northern section of the cardo at Gerasa may well be a parallel case. Lying next to a main entrance to the city on the roadway which formed the major caravan route through the city, these colonnades would have provided a convenient location for commerce away from the political and sacred heart of the city. Hence the early application of the colonnade here and their lack at first in the central portion of the city would not seem at all surprising. In both cities two different districts, one commercial and one primarily religious were embellished in the first century and then joined by monumental building in the second and early third centuries.

Corinth[71] (Plan 16)

The renewed economic and social activity at Corinth after Julius Caesar's grant of colonial status had as one result a large amount of building activity beginning in the Augustan period and continuing through the first century. The buildings were funded by local citizens. Included in this early Roman program for the city was a gradual transformation of the Lechaion road into a commercial mall (Pl. 1b). Within the Corinthian townscape the Lechaion road had occupied almost the same position since archaic times leading as it did from the "agora" to one of the ports.[72] This position insured its importance as a major thoroughfare and major civic elements came to be grouped along it such as the Fountain of Peirene, the Peribolos of Apollo and later the Baths of Eurycles. The emphasis in the Roman period, however, came to rest on the commercial aspect since it became, with

the building of the first shops in the Augustan period, an adjunct to the Classical and Hellenistic agora providing additional space for business in ideally suited architectural forms. In essence Corinth is an example of the systematization and enlargement of a format found in the Classical period in, for example, Assos where a few extra shops line a roadway leading into the agora and this close integration of agora and colonnaded street was to find many applications in succeeding years. With the evidence available now it seems that Corinth may provide the earliest example of this configuration since the commercial Transverse Colonnade at Palmyra is not associated with an agora or an area resembling an agora, but rather with a city-gate.

No epigraphic evidence for the dating of the various elements of the roadway exists. The sequence of events, however, can be recovered with a reasonable degree of certainty. On the west side of the roadway at the south end adjacent to the agora a row of shops was laid out to form the basement of the east end of the Basilica. This construction took place in the Augustan period.[73] Although it is usually assumed that a poros colonnade originally went with these shops, I can see little evidence either on the ground or in the excavation reports for such a colonnade. In this earliest phase, there appears to have been no matching row of shops across the street.[74] The shops and colonnade on the east side appear to have been designed in the second half of the first century. The construction was in poor quality limestone and antedates

the paving of the street[75] but probably not by many years. The paving of the roadway itself in bluish limestone quarried on Acrocorinth may well be connected with rebuilding after the destructive earthquake of A.D. 77 since pottery and coin evidence suggest that this phase of the work could not have taken place until the third quarter of the first century.[76] When the roadway was paved, some parts of the eastern colonnade were replaced in marble, presumably because of damage, but the original construction was used for the lower portions.

It was at the time of the limestone paving of the road that the western colonnade was constructed as a facade for the shops with a stylobate and superstructure of bluish marble from Euboea. The donor for this expensive undertaking is unknown. A broken entablature block, probably from this colonnade preserves two letters of an inscription in Latin, whose meaning unfortunately cannot be restored (Pl. 2b).

I am inclined to date the Corinthian order (Pl. 2a) from the western colonnade later than the Flavian period. It has none of the exuberant decorative effect characteristic of Flavian work both in Rome itself[77] and in the eastern provinces, e.g. at Ephesus in the two lower orders of the theatre.[78] The architrave consists of three fasciae separated from the pulvinated frieze by a plain convex modelling. No decorative carving appears anywhere on this combined architrave-frieze block. Heilmeyer[79] calls the capitals "Western Flavian" but, in fact, they are much closer to

Corinthian capitals typical of Pergamon and Ephesus with their softly rounded contours and tall narrow outline. Much uncarved space is left on the kalathos, especially in the upper half. Comparable carving of leaves and spacing are found on the capitals from the Trajanic/Hadrianic Upper Gymnasium at Pergamon and from the early Hadrianic Temple of Zeus at Aizanoi.[80] An unusual feature is the round plinth, rather than the common square type, carved in one piece with the Attic-Ionic bases. A comparable type base can be found in Athens from the Hadrianic Baths north of the Olympeion. No absolute date can be fixed for the carving of the order here beyond the dating provided by material from the sondages which indicate the third quarter of the first century as the earliest the work could have been done. How much after the earthquake the western colonnade was erected cannot be fixed with certainty but a date towards the end of the first century seems reasonable. The eastern colonnade, originally a pre-earthquake construction, received repairs at the same time as the building of the western colonnade[81] and the end result was a visual uniformity for the superstructures of the porticoes along the street.

Three further arrangements in the design require mention since they are interesting for developments in street-decoration. As can be seen from Pl. 1b, the pedestrian sidewalks on both sides of the central roadway lie outside the porticoes. They are 0.292 to 0.305 m. higher than the pavement of the road and are 2.62 m. wide. The addition of actual

sidewalks to the plan when porticoes were available for pedestrian traffic may be connected with the fact that this was primarily a commercial street. Business activities may have been a regular feature in the porticoes as well as in the shops behind so that sidewalks were necessary for those wishing to make rapid progress along the street. Sidewalks outside the porticoes are found in only some street schemes and will be discussed in the individual cases. The oval piazza at Gerasa also had sidewalks outside the porticoes and the reason could well be the same there. It is true that the sidewalks were occasionally interrupted for architectural features such as a bema[82] but nevertheless such obstructions could not impede progress as much as temporary stalls and vendors situated all along the covered walkways.

The roadway itself was closed to wheeled traffic so that the whole was actually a pedestrian mall. This is a format that one finds deliberately created at places such as Apamea but not normally until the Late Antique-Early Byzantine period. At Corinth the mall was part of the original plan when two steps, 0.15 m. high were laid across the roadway 107.70 m. north of the entrance to the "agora".[83] Presumably the Lechaion Road beyond this point as it led to the port, was available to wheeled traffic. The reservation of the central core of the city for pedestrians seems an indication of a high degree of conscious planning to achieve desired results within the townscape.

Marking the end of the Lechaion Road and providing a

visual terminus is the propylon set at the north-east corner of the agora (Fig. 1). It forms the transitional element between the agora and the roadway which is at a lower level. Gates of various kinds forming a visual focus at the end of rows of columns became part of the standard architectural repertory of the second century but examples from the late Hellenistic period onwards set the pattern. Monumental gateways at exits from the agora were utilized from the Augustan period, as the two added to the commercial agora at Ephesus testify. The date of the original poros gate with three openings cannot be closely fixed. It is assigned to the early Roman period and was replaced in the late first century by a single-arched marble structure as part of the rebuilding of the city after the earthquake.[84] The first poros phase does not seem to belong to the earliest period of work at Corinth in the Augustan period since fragments of Attic-Ionic base from it are still extant.[85] Lucy Shoe in her study of architectural details at Corinth has noted that the Roman Ionic base characterized the first works executed in the Roman period.[86] Nevertheless it did form part of the construction carried out in the first half of the century and shows that Corinth was utilizing planning and formats that were becoming the hallmarks of the Roman period monumentalization of Greek cities.

By the end of the first century Corinth had acquired a well-organized and visually attractive commercial street. In size it does not compare with the Transverse Colonnade at Palmyra since Corinth's roadway is only 8.40 m. wide with

porticoes 4.80 m. The length of the colonnaded portion cannot be determined since the Lechaion road passes under the modern town just beyond the excavated section. The stylobates are preserved for only approximately 100 m. No further building of colonnaded streets seems to have occurred here. Embellishment of the existing one took the form of decorative statues of gods: Hermes, Poseidon, Leucothea, Palaemon.[87] Roman propaganda works appeared in the form of a monument to the goddess Roma on the Seven Hills.[88]

Athens[89] (Plan 17)

The ideas found in Corinthian street-planning were also operating in Athens in the Trajanic period. Two areas were reorganized in order to provide additional space for commerce in close proximity both to the Greek and to the Roman agora. One area consisted of a reworking of the borders of the Panathenaic Way, so a further result was a special treatment along Athens's traditional Sacra Via.

Where the Panathenaic Way enters the northwestern corner of the Classical agora excavations have revealed colonnades set on both sides of the street. Only the stoa on the south side has been recovered in sufficient detail to reconstruct its appearance.[90] Much less costly or imposing than the structures at Corinth, it was constructed of poros which was stuccoed in the superstructure. The order was Doric and the floor was merely hard-packed clay. Interestingly there were no shops behind. The back wall of the colonnade was, in fact, the median wall between two porticoes set back to back. The colonnade on the south side faced on to another

street running parallel to the Panathenaic Way. This was a dead-end street terminating behind the Royal Stoa and Stoa Basileios. To provide an exit from this street a propylon formed the east end of the double colonnade allowing circulation between the two thoroughfares. The date for the construction of this double colonnade is fixed in the Trajanic period by pottery coming from beneath the floor.[91]

Literary evidence from the fourth century indicates that the stoas along the Panathenaic Way were used for commercial purposes.[92] Since the stoa facing the street never did have shops behind it, one can only conclude that the commerce here was intended to take place in the colonnade itself. It is apparent that an open portico was not found to be satisfactory in the south aisle of the double colonnade since remodelling in the first half of the second century saw dividers put in from every second column to the median wall thus creating separate shops and changing the function of the portico entirely since it could no longer be a pedestrian walkway.

From Pausanius (I,2,4) we learn that the Panathenaic Way was lined with porticoes from the Dipylon gate to the agora, a distance of approximately 500 m. Statues of gods were decorative elements in them. Since excavation is impossible over some of this distance it is not known whether the Trajanic installations at the agora end continued as far as the gate or whether a gradual accretion of stoas resulted in a complete enclosure by the late second century. There is

evidence for Byzantine installations of this kind at the Dipylon end and these will be considered in the next chapter.

A pedestrian mall (Plan 18) surrounded by monumental architecture, very similar to the Lechaion Road, was created ca. A.D. 100 in the area between the Greek and Roman agoras.[93] The complex known as the Library of Pantainos included on its northern side an Ionic portico which created a uniform facade for a row of irregular rooms behind. Some of these rooms were shops and some appear to have served purposes connected with the Library itself. The stoa served a dual function since it was planned as part of the structure behind it and dependent upon it. But it also bordered the roadway between the two markets for its entire length of 75 m. and hence formed part of the street architecture creating a grand approach to the stairway leading up to the Roman Market at a higher level. While the stoa was paid for by Pantainos, the roadway itself was paved in marble out of public funds. The work is commemorated in an inscription found in the area of the stoa.[94]

The generosity of Pantainos insured that this roadway would be bordered by a more elegant structure than the porticoes of the Panathenaic Way. The stylobate and order were of poros. Excavations on the other side of this street have revealed traces of a colonnade but not enough to ascertain its date or appearance.

Like Corinth the thoroughfare was reserved for pedestrians since stairways at both ends provided access to it from the marketplaces. An arch over the street formed a visual

terminal point at each end. Another arch was thrown over the junction between this street and another one from the south which joined it at right angles. The square poros piers are still in position. The use of arches to mark the crossing of streets is an architectural feature usually associated with Syrian cities such as Palmyra and Apamea. It seems apparent, however, that this was a format employed more widely and earlier than usually thought since we have seen its traces in Nero's Sacra Via and now in Athens.

By the end of the first century the formative period for the concept of utilizing standard building elements (stoas and gates) on streets to create enclosed spaces and special effects was over. It is possible that excavation work might reveal even more examples of such street-management in this period but for the present there are enough extant to indicate that when economic and social conditions in a city were favourable for monumental undertakings, important streets often were treated as entities worthy of embellishment.

Street-Management in the Second Century

The work done in the first century seems rather minimal when compared with the amount of construction on streets in the period from Hadrian to Septimius Severus. In a chapter that purports to offer the known background against which the little studied streets of Asia Minor can be set, it would be foolish to outline in detail the building of every published colonnaded street in the Roman world. It is however, important and necessary to point out the trends in the format and its applications as they can be followed throughout the second

century. One can see the tendency to add elements that had been and sometimes still were independent entities, making them built-in parts of the schemes. These were buildings whose columnar decor made them readily adaptable to the arrangement of stoas along the borders: nymphaea, gates, arches and tetrapyla. By the Severan period the idea of a colonnaded street had crystallized to the point where a unified scheme involving roadway, colonnades and subsidiary buildings could be designed and built according to a master plan.

It is difficult to present such a large body of material in an organized fashion which can have some meaning for the reader. The strictly chronological approach is not valuable for two reasons. Absolute chronologies for the installation of various elements in most cities cannot be established and the systematization of the architecture along streets did not necessarily follow a logical step-by-step sequence which can be neatly laid out. The process was gradual and came to a natural culmination when architects or planners had exhausted the various possibilities and were ready merely to apply to comparable situations in their own time the end result of the experiments of preceding generations.

Monumental streets whose remains are extant are loosely grouped according to their major role within the townscape. Hence cities whose dominant visual characteristic was the proliferation of several colonnaded thoroughfares are

grouped together. Two crossing colonnaded streets creating a specifically Roman type of plan are considered together. Cities which chose one major axis to embellish are another group. Shorter stretches which have been modified by architectural additions might have a primarily commercial or a religious function. These are studied in the context of these roles. The categories, of course, often overlap since a street could perform more than one function. It is usually the case, however, that one of these roles predominates. Within each grouping some attempt to indicate relative chronologies has been made. Gathered together at the end of the chapter are the streets for which there is only literary evidence or such minimal extant or excavated remains that any sound judgment on them is impossible.

Palmyra

As is evident from Plan 14, Palmyra lacks a unified grid defining its entire lay-out. Except for special areas laid out in the Roman period, the roads of the city follow courses determined by topography and the pre-Roman situations of important civic buildings such as the Temples of Bel and Allat. Palmyra provides the only example in the Roman world of the imposition of extensive schemes of monumental street-management to a network of streets which followed no orthogonal plan. The result was very successful in a picturesque and individualistic way.

The evidence that we have indicates that the work here was entirely the result of private benefactions. Imperial aid to the city appears to have been confined primarily to the

political and social spheres with Hadrian's granting of the rights of a free city in A.D. 129 and Septimius Severus's formal declaration of colonial status.[95] It is an indication of the wealth of the city that so much civic building did occur as the result of private donation. The Palmyrenes were especially careful to commemorate such benefactors on consoles attached to the columns of all types of structure. But the length of time taken to complete massive projects, as indicated by the dates on the consoles and by the differences in style of the architectural decor within one complex, is the negative side to the picture of civic initiative we see in Palmyra. The Grand Colonnade alone took over a century to reach its finished form.

The main colonnaded street at Palmyra provides an excellent example of accumulative architecture to achieve an impressive and, on the surface, a unified result. Neither a cardo nor a decumanus, the Grand Colonnade runs in a NW-SE direction traversing the central core of the city but not directly serving the large NW quarter of the city where later the Camp of Diocletian developed. With a temple at either end it functions primarily as a Sacra Via. The main caravan route passed through the wadi to the west. Commerce does not appear to have been closely connected with it since, unlike many configurations we shall be looking at, the agora was not placed on it. It was instead bordered by houses at its northwestern end and monumental civic buildings such as baths and temples along the rest of its length. From it roads led to

public monuments such as the theatre and temple of Baalshamin. The fact that so many vital areas could be approached from it does indeed make it an important thoroughfare within the city and removes it from the category of a simple Sacra Via, typified by the colonnaded street leading to the Sanctuary of Asklepios at Pergamon. As with many features of Palmyrene art and architecture the Grand Colonnade defies categorizing.

In contrast to the width of the Transverse Colonnade which is an expansive 22 m., the Grand Colonnade measures only on average 11 m. across. But the length of roadway treated with colonnades 1,100 m., is remarkable as is the size of the orders applied to it. The columns vary from 9.5 to 12.0 m. in height compared to the average of about 6 m. on other sites. The order was the Corinthian throughout and an additional decorative element were the consoles attached to most of the columns, bearing an inscription and honorary statue. This usage is paralled on the columns of enclosed areas such as the courtyard of the temple of Bel and the agora. Though consoles are known from other Syrian and Cilician sites, nowhere are they used as extensively as at Palmyra.

An excellent study outlining the architectural nature of the Grand Colonnade has recently been published.[96] The author establishes the piecemeal nature of the work which was done stoa by stoa with donors contributing sections of seven or eight columns with roof and decoration. Since the colonnades were planted along the edges of a roadway going through

already built-up areas, constructions on either side determined in part how the roadway could be treated. Basically two kinds of portico are distinguished: the portico which forms part of the roadway ensemble and the portico attached to and dependent upon the building behind it. In one case a pre-existing structure, the Temple of Nebô, had to be partially curtailed in order to allow the building of the street-side portico. The result of such a method is a great variation along the central section of the Grand Colonnade in the width of the roadway (10.80-15.70 m.), the width of the porticoes and rooms behind and the intercolumniations.

Subsidiary elements added to the colonnades help to maintain a visual unity and continuous flow of architecture along the edges. Where cross-streets entered the Grand Colonnade, pillars at the ends of the flanking porticoes carried arches across the roadway. At the same time a monotonous effect of repetitive columns and architraves was avoided since entranceways to buildings behind could be accentuated by wider intercolumniations on the axis of the doorway or by a monumental propylon such as the one erected in front of the Baths in the Diocletianic period. A nymphaeum in this section interrupts the portico completely by means of a decorative facade of four columns on pedestals without entablature set 10 m. apart.

Not only was the median portion built sectionally but the Grand Colonnade as a whole was constructed in three stages starting at the west end. The earliest dated text on

a console from this area belongs to A.D. 158.[97] and the date for the embellishment of the first section from its junction with the Transverse Colonnade to the Tetrapylon is put in the second century, probably the middle two quarters. Interesting for the question of the implementation of certain configurations in Roman cities is the tetrapylon set in the oval piazza (A on Plan 14 and Fig. 2) at the point where the Grand Colonnade makes a sharp bend. The tetrapylon here performs two functions. It closes the vista as one looks to the east from the roadway and it and the circular shape of the piazza in which it is set mask the jog in the roadway. The colonnades of the roadway with shops behind continue around the piazza. The architectural elements on comparison with other Palmyrene work date to the second half of the second century.[98] Hence the tetrapylon was an early feature added to the scheme of embellishment. It has been claimed that the round piazza was a development of the Byzantine period and that the oldest is at Philippopolis.[99] The piazza, however, at Palmyra disproves this theory since nothing in its architecture indicates that it is later than the Tetrapylon and a circular shape was necessary from the time the tetrapylon was constructed since it measures 18 m. per side. As a functional piece of architecture a tetrapylon offers little since it, in fact, would act as an obstruction to the free flow of traffic through an intersection. The form must have appealed to the desire for monumental appearance and to the aesthetics of the time since it is a type found repeatedly in street

architecture from the second century onwards.

Though I am inclined to sympathize with D. Claude's suggestion that circular intersections had a certain symbolic connotation as the "heart of the city",[100] their development probably has much more prosaic roots. As well as accommodating easily large structures such as a tetrapylon they were a more useful format for planners attempting to deal with intersections of streets not meeting at right angles. If an intersection were to be enlarged on a square plan and if colonnades were included in the planning, difficulties would result where the street corners met the edges of the square. To avoid any obvious disparities circular intersections are ideal since they remove all angles. Each of the four facades created by the portion of a circle occupying one corner would appear approximately the same to anyone standing in the intersection.

The vista at the western end of this first section was closed in the early third century when the Tomb temple (B on Plan 14) was constructed on the axis of the roadway.[101]

The central portion of the colonnade, already discussed above, was built from the Tetrapylon to the Monumental Arch, a distance of 319 m. Elements of the architectural decor analyzed by Filarska date the work generally to the Severan period.[102] During the construction of the colonnades, the Monumental Arch was placed at the eastern end of the section, (C on Plan 14).[103] Consoles on the Arch belong to the period ca. A.D. 220[104] so it may have been among the

latest elements built in the median section. Its design in the form of a V was clearly governed by the fact that the roadway bends again at this point. The lay-out allowed each face to be perpendicular to the approaching roadway. The relationship of the Arch to the colonnades followed the standard pattern which saw the roadway aligned with the large central archway and the colonnades with the smaller side arches.

All the inscriptions on the consoles of the final section of the Grand Colonnade leading from the Monumental Arch to the entrance of the Temple of Bel belong to the third century and an analysis of the architecture confirms that this was the last section to be built.[105] The roadway reached its conclusion at the propylaea leading to the courtyard of the Temple of Bel. The gateway was dedicated in A.D. 175.[106]

Although the fundamental conception of this roadway as a Sacra Via is not in doubt, any correlation between the monumental embellishments and this function at least at the beginning of the work seems unlikely. If there had been a connection it would have been more reasonable to begin work on the eastern section between the bend on which the Arch stands and the Temple. What motivated the planners to begin at the western end is obscure. Perhaps the existence of a monumental street with colonnades in this area made the junction of the Transverse Colonnade and this roadway seem the logical starting-point in terms of visual unity.

While work proceeded on the Grand Colonnade, porticoes

of a few columns continued to be donated for the Transverse Colonnade. Inscriptions on consoles cover the period from A.D. 110 to 179.[107]

The Transverse Colonnade provided the starting-point for another columned street perpendicular to it, cutting the northwest quarter of the city in a NW-SE direction (Plan 15). This street became the Via Praetoria when this area was converted to a camp in the Diocletianic period and this designation will be used throughout. As has been noted a street with columns existed here from the early first century and seems to have been connected with the Temple of Allat. The installations along the Via Praetoria cut this colonnade at right angles and thus created a very orderly and typically Roman configuration with two major crossing streets defining the lay-out. The transformation of such a plan into a military camp involved very little alteration. In its original form, however, it functioned as a Sacra Via leading directly to a temple located on the axis of the street on the spot where in the Diocletianic period, the so-called Temple of the Standards stood.[108]

The roadway's extent is limited, having a length of only 100 m. It is 12 m. wide with porticoes on both sides, 5 m. wide. Recent excavations[109] have shown that the street was built in two sections from west to east with the perpendicular street leading to the Temple of Allat forming the boundary. On stylistic grounds the architectural decor dates to the last three quarters of the second century. It is

later than the Transverse Colonnade since alterations had to be made in the back wall of the northwest portico of the latter to allow for the installation of a gateway providing access between the two quarters of the city (A on Plan 15).

Other architectural elements were added to the basic treatment of the street to provide a closed system. At the eastern end of the Via Praetoria an open portico of two rows of columns (B on Plan 15) closed the vista. In its present form it is a rebuilding of the Diocletianic period but it incorporates original elements from the late second century. The portico is set parallel to the Transverse Colonnade and, therefore, lies at an oblique angle to the axis of the Via Praetoria. It has been suggested[110] that the function of this structure was to disguise the marked deviation between the axis of the Via Praetoria and the Transverse Colonnade but it must be noted that the device would work only for those passing from the Transverse Colonnade into the Via Praetoria. In the early third century a more substantial transitional element in the form of a triple-arched gate was installed in the back wall of the Transverse Colonnade (A on Plan 15). At its western end the Via Praetoria terminated in a classic formula. Stairs led up to a columned gate leading into the Temple area (C on Plan 15). In the Diocletianic period a massive gate and new stairs were built over the second century structures but enough remains beneath the later building to ascertain that the western end of the Via Praetoria had been provided with a monumental visual termination in its

first phase. The small tetrapylon (D on Plan 15) was not a feature of the complex until the transformation of this quarter at the end of the third century.

Other streets became decorative elements in the townscape but their unexcavated and unpublished state hinders any conclusions about their exact nature and date. The Grand Colonnade provided the starting point for smaller colonnaded streets leading to important civic areas. The theatre street led from the circular intersection in a WSW direction (D on Plan 14). The theatre itself was built in the first half of the second century so it is probable that the embellishment of this street was contemporary with or a little later than the theatre. Another columned street ended at the northeast corner of the agora and seems also to have come from the circular intersection. The semicircular portico behind the theatre provided access to a narrow colonnaded street leading in a northwest direction to a city gate (E on Plan 14). This is identified as a caravan route lying in close proximity to the agora west of it. Another colonnaded street having a sacred function is reported as leading in a northeast direction from the Temple of Baalshamin. Its cost was borne by Malko, a private citizen who also financed Hadrian's visit to Palmyra in A.D. 129-30.[111]

The amount of columned architecture applied to the streets of Palmyra exceeds that of any other city in the Roman world. It is remarkable that an essentially Greek format should have been so quickly adopted and so extensively

applied for over two hundred years. Antioch's role as the possible model in the early first century, especially if architects came from here to direct work on the monumental building program centering on the Temple of Bel, can be suspected though not proved. The desire to multiply the number of streets with distinctive architecture must be the result of an enormous amount of local wealth and civic pride surpassing anything found elsewhere in the eastern Mediterranean.

Gerasa (Plan 7)

Gerasa's Roman appearance is achieved by an orderly scheme consisting of three colonnaded thoroughfares chosen for their importance within the grid system. The cardo defined the entire north-south extent of the city except for a short continuation outside the grid system beyond the oval piazza. The two colonnaded decumani ran from gates in the western stretch of the city wall to the cardo and the colonnades of the southern decumanus continued in the sector to the east of the cardo, at least in places. These decumani defined the northern and southern borders of the area of greatest civic importance in the Roman period. Lining the cardo between them are two religious complexes and a large nymphaeum of facade-type. The construction of the Temple of Artemis appears to have shifted the centre of the city northwards from its original location at the oval piazza and Temple of Zeus. The constructions which decorated the surrounding streets helped to define this newer monumental centre.

The work which took place in the first century was discussed earlier. In the second century construction continued until the entire length of the cardo, 803 m., was provided with a facade on both sides. A terminus ante quem for the work is provided by the date of the nymphaeum located to the south of the Artemis complex on the central section. A dedicatory inscription of A.D. 191[112] indicates that the porticoes here were in place before that time since alterations to the portico were necessary to allow for the insertion of the nymphaeum. The Artemis propylon was dedicated in A.D. 150.[113] The dedication refers to τὸ προπύλ[α]ιον σὺν τῇ στοᾷ. Since the colonnade along the roadway formed the first element of the entrance on the west side of the cardo, the inscription is probably recording the date for the dedication of the portico on the road as well as for the propylon. It should be noted that the portico was considered part of the complex behind it. That all the colonnades were in place by A.D. 150 cannot be certain since, as at Palmyra, local initiative was funding the work[114] and the result was, no doubt, a long period of construction.

The cardo's major function was as a thoroughfare within the city walls for traffic on the Damascus-Philadelphia highway. Its end-points were city-gates rather than buildings within the city. Hence the major buildings were grouped along it and modifications were introduced into the colonnades to create distinctive entrances. Here the

colonnades along the street were not intended as a barrier between street and buildings but were utilized as integral elements in creating the approaches to these buildings. Added magnificence was created by increasing the height of the columns and placing them on larger pedestals at these points.[115] Such a format can be compared to the incorporation of the temple's facade into the colonnades of the Forum of Vespasian in Rome. The use of differing sizes of column breaks the rhythm of the colonnades and provides a visual focal point.

At the entrance of the cardo into the oval piazza a Corinthian triple-arched gateway was constructed, necessitating some alterations in the placement of the Ionic colonnade at this end. The exact date of construction cannot be ascertained but on stylistic grounds the authors have assigned it to approximately the same period as the colonnades on the street.[116] The gateway would have provided a visual terminus looking south along the cardo.

Excavation behind the Ionic colonnades of the piazza and behind the porticoes of the cardo just to the north have revealed the presence of shops. There were, in addition, particularly well-built shops flanking the two monumental entrances leading to the Cathedral area and the Temple of Artemis[117] so that by the end of the second century Gerasa's commercial zone was spread in orderly fashion over most of the core area.

A common decorative element for colonnaded streets

appears in the imperial statue bases which have been found in position along the roadway.[118] Most come from the central section of the cardo near the Temple of Artemis indicating that this area was perhaps considered the civic "heart" of the city where symbols and propaganda were most suitably placed for maximum effect.

At the two important intersections of the cardo with the colonnaded decumani, tetrapyla were built to mark these points and break the vista along the cardo. At the southern intersection the tetrapylon is a smaller version of the type found on the Grand Colonnade at Palmyra (Plan 7).[119] The authors date this structure to the Antonine period or earlier[120] although they admit that stylistically its architectural decor bears no resemblance to that along the street. Inscriptional evidence for its construction is lacking except for the possibility that some inscribed pieces found in the debris around it originate from it. Three of the columns have inscriptions dated to the second or late second century presumably on the basis of letter style while a fourth is more securely assigned to the tetrapylon and is dated to the early third century.[121] On stylistic grounds the capitals[122] are not related to any of the dated pre-Antonine or Antonine work on the site.[123] Rather the stylization and exploitation of voids in geometric shapes are prominent characteristics of these capitals. Also marked is the progression of all the vegetal elements almost to the top of the kalathos leaving only a small space for ribbon-like helices and

volutes at the top. Plasticity and naturalism are giving way to static patterned arrangements. All these features are general characteristics of Severan work all over the eastern Mediterranean and it is more likely that the Tetrapylon was built around this time as a feature added to the street-scheme rather than contemporary with or preceding it. An inscription records the paving of the southern decumanus east of the tetrapylon, which is mentioned in the text, so that it must have been in existence by the time of carving in the first half of the third century. The person named in the inscription is known.[124]

The tetrapylon at the northern intersection remains unpublished but was of the Janus Qudrifrons type[125] consisting of piers joined by arches facing all four roadways. Found in the debris around it was an inscription tentatively assigned to the structure, honouring Julia Domna and an architrave inscription naming Caracalla.[126] It is possible that both tetrapyla were built at the same time in the Severan period to add to the scenic effects along the cardo.

A difficult point is the dating of the circular facade around the tetrapylon in the southern intersection. Evidence for the date of the building comes from an inscription built into the wall in the north-east quadrant. It probably represents a reused block rather than an inscription related to the building. Unfortunately the reading of the inscription is disputed. It is first of all stated[127] that the text records the erection of an unidentified building by

Malchus. It is later, however, interpreted as recording the erection of a statue by Lysas[128] and this reading must be the correct one. The difficulty comes in the interpretation of the date which is given in the excavation report as A.D. 228 but is read as A.D. 143 by Jones.[129] On looking at a photograph of the inscription published by Jones, the disputed letter does not have the round form of (=90) but is linear (ϟ) with the lower horizontals bar not extending as far to the right as the upper. Jones reading of the letter as a 6 seems the more likely, giving A.D. 143 (after computation from the Gerasene era) as the terminus post quem for the building of the facade. The authors of the excavation report do not think that a circular intersection was necessary from the time that the tetrapylon was in place but preferred rather to connect the shape and the facade with some honorary inscriptions of the Diocletianic period found on the pylons of the Tetrapylon.[130] Since they had found second century buildings beneath the circular facade indicating a square intersection for that period here[131] and since they date the tetrapylon to the mid-second century, it seemed as though the circular facade had to be a later addition. Since, however, the Tetrapylon is more likely to be of approximately the Severan period and the reused inscription in the wall seems to be of mid-second century date, there is no reason not to see the two elements as more closely linked. The tetrapylon would have been out of all proportion cramped into the original square intersection

and would have lacked all monumental effect without space around it to create a suitable setting.

Both of the colonnaded decumani were important as access routes leading to city gates. The northern decumanus served also as the approach to the North Theatre aligned with it on the south. The street colonnades were modified to serve the theatre since a plaza was created opposite the theatre by widening the roadway. The theatre itself was built in the Antonine period but the courtyard joining street to theatre is Severan.[133]

A colonnaded street designed specifically for the purpose served as a Sacra Via in the complex approach created for the Temple of Artemis (A on Plan 7). It was only 38.7 m. long and had a width of 11 m. In harmony with the rest of the complex, the order was Corinthian. The road had no other function within the townscape and was, in fact, cut off from its surroundings since the back wall of each portico was blank forming a barrier between the enclosed roadway and the buildings on either side.[134] Located on the east side of the cardo, it was dominated by the mass of buildings connected with the sanctuary at a higher level on the west side of the cardo and would have provided a suitably impressive route for processions on their way to the temple itself.

The work on the main streets of Gerasa appears to have been completed by the early third century. The results were the articulation of the entire north-south extent of the city and the public sector in the western half and the creation of

a suitable monumental setting for the main public buildings.

Bostra[135] (Plan 19)

Exceeding even Palmyra in the number though not in the extent of its embellished streets is Bostra in which the remains of five, or possibly six, colonnaded avenues are visible. Their use within the townscape is unusual in that they do not appear to have defined the outlines of the city as a whole but to have been concentrated in the northwest quarter which became the core area in the Roman period.[136] Like Palmyra Bostra's original plan was irregular but Roman planners were able to mask the irregularities by the use of strategically placed structures and by the imposition of a network of streets crossing at right angles north of the principal decumanus. Presumably this area was not heavily built up until the period of expansion in the second century since Nabataean remains are concentrated in the southeastern part of the city. The colonnaded street system served the Roman monumental quarter where the market, baths, shops, theatre and nymphaeum were located.

The main street in this system is the decumanus leading from the West Gate to the area of the Nabataean acropolis. It appears to have been colonnaded for a distance of ca. 406 m. to the East Arch which marked a bend to the north in the roadway. It would have been part of the Nabataean street system. Meeting it west of the East Arch is the principal cardo coming from the North Gate and terminating at the decumanus rather than continuing through the southern half of the city. The decumanus and cardo did not meet at right

angles. An attempt to impose a grid was made by using the cardo as the starting point for two secondary decumani which crossed the cardo at right angles, parallel to each other but not to the principal decumanus. A secondary cardo to the west was part of this grid. All of these streets had colonnades along them. None of the main thoroughfares were singled out with an exceptional width since all are only between 7.90 and 8.80 m. wide. Porticoes on all had a width of 5.50 m. The over-all effect of the work here is one of a network of similar streets, similarly embellished to create an immediately apparent core or "downtown" area. Shops were found in places along the southern secondary decumanus and a market stood on the west side of the cardo between the principal and secondary decumanus so that commercial activities are known to be part of this area.[137] More surprisingly, the colonnades of the secondary cardo appear to have stood in front of a row of houses.[138]

The order used on the southern secondary decumanus and the secondary cardo is the uncommon Ionic. No capitals were found on the principal decumanus or cardo but the fact that subsidiary elements incorporated into the colonnading (the Nymphaeum and Kalybé) were Corinthian suggests that Corinthian was probably utilized on these. A small point arguing against the use of Corinthian is the fact that the engaged capitals on the sides of the Central Arch are Ionic. These would have terminated the line of the colonnades on the south side of the principal decumanus. The engaged pilaster capitals on

the north face are, however, Corinthian and these would have been the capitals visible to anyone in the street who looked at the Arch in relation to the colonnades on either side of it.

The principal decumanus was further embellished by the construction of several monumental structures. The element at which it terminated, the East Arch (A on Plan 19), is probably prior to the colonnades themselves. The Arch on the roadway is a typically Roman format but is decorated with Nabataean capitals.[139] It is interesting to note that some of these capitals, under the influence of the Corinthian order, have a row of acanthus leaves around the bottom. The composite nature of the capital suggests that the East Arch belongs to the period of transition in Bostra between Nabataean and Roman traditions which would have occurred in the years immediately following A.D. 106 when Bostra passed from Nabataean to Roman domination and became the capital of Arabia. The form of the acanthus leaves on these capitals supports a date at the beginning of the second century. The relief is flat and most of the leaf adheres closely to the Kalothos with only a small portion at the top falling forward. Especially to be noted are the eyes which separate the folioles of each acanthus leaf. They are still small and almost round. Comparable characteristics are found on the pilaster capitals of the north section of the circuit wall and on the north and south portico of the Temple of Bel and on the Tombs of Jamblich (A.D. 83) and Elahbel (A.D. 103) at

Palmyra.[140] Remains to the east of the Arch indicate that the decumanus continued to the area of the Nabataean acropolis but not on the same line as before the Arch. Hence the Arch acts as the terminal point only for that portion of the decumanus as a whole. It is comparable to the Triumphal Arch at Palmyra in its siting at a bend in the main thoroughfare and probably was intended to mask this fact. It is, however, a much less sophisticated example than either the Arch at Palmyra or the North Gate at Gerasa since it lacks the refinement of a V-shape enabling it to present a face perpendicular to the roadway on both sides. At Bostra the gate is at right angles to the roadway only for those approaching from the west.

Midway along the decumanus on the south side is the Central Arch (B on Plan 19) set in place of the portico at the point where a street coming from the south joins the main roadway. It does not fit well into the colonnading scheme of the street since the last column of the street colonnade is almost right up against the corner of the Arch but the exact relation of the times of building for each is unclear.

Due to the largely unexcavated and unpublished nature of the site, dating for the architectural work on the streets is difficult. A few general remarks may be made. At the corner of the principal decumanus and cardo stands a Nymphaeum (C on Plan 19) whose construction must have formed part of the work on the colonnades in its immediate vicinity. It was designed to mask the awkward angle at which the two streets

meet and its facade was carefully integrated with the colonnades on either side. It does not disturb the column spacing on either street and, in fact, the two end columns in the row of four which constitute the facade of the building continue the colonnade of the two streets. A bracket was set on the west side of the column facing the decumanus to carry the architrave of the smaller order on the street. The orientation and form of the structure preclude its having been built earlier than the colonnades on the streets since the two architectural elements are so closely tied together.

The nymphaeum is not dated by inscriptions but an analysis of the Corinthian capitals points to a date of construction in the Hadrianic or Antonine period.[141] The capitals are naturalistic with heavy vegetal elements and a tendency towards elaboration and picturesqueness in the subsidiary elements, such as two tiny pairs of helices below the main pair and the leaves on the upper surface of the volutes. Both the helices and volutes are moulded and detached from the kalathos. A peculiarity of this capital, which it shares with some from Palmyra and Gerasa, is the fact that the helices are not contiguous but are joined by a small crossbar. All the characteristics of this capital find very close parallels in the capitals from the high portico and the propylon from the Temple of Bel at Palmyra,[142] the Triumphal Arch at Gerasa (A.D. 129-30),[143] and the capital from the honorific column at Baalbek (A.D. 138).[144] It seems likely therefore that the colonnades were in the process of being

built in the middle period of the second century.

The building known as the Kalybé situated across the cardo from the Nymphaeum is also designed to mask the irregularity in the meeting of the two streets (D on Plan 19). The column which terminates its facade at the south corner where the streets meet is set on a line with the columns of the colonnade on the decumanus west of the cardo (the column is E on Plan 19). It deviates from the south building line of the Kalybé but was obviously designed to make the corners look equal. The building incorporates many irregularities to make it fit the colonnading scheme; hence, it too must have been built at the same time as or after the colonnades were in place. There is no inscriptional evidence for its dating but the author[145] dates it to the Antonine period because of its elaborately carved architectural decor. It seems probable that it would have been part of the same building program as the ymphaeum and neighbouring colonnades. Though only a tentative conclusion, given the lack of firm evidence, is possible, nevertheless it does seem that monumental building was taking place on the principle cardo and decumanus in the mid-second century.

There is some evidence that the Ionic colonnades on the secondary cardo are Severan. Several pieces of an architrave inscription were found built into modern walls.[146] These fragments are attributed to the inscription on the architrave of the Ionic colonnade, of which only καί δη is still in situ, on the basis of letter style and of the size

of the blocks. Important from the point of view of the date for the street is inscription number 563 which has preserved the letters M N H C C . This is restored as ('Ιουλίας Δο)μνης Σ(εβαστης). The dedication in honour of Julia Comna points to a Severan date for building on this street at least.

For Bostra it is unprofitable at this point to speculate further about the exact dates of all the work done on the streets. In terms of trends in the eastern Mediterranean Bostra's colonnades fall naturally into the period from the Antonines to the Severans when so much work took place. The city is unusual for the number of its monumental streets and their concentration within a specific area rather than spread throughout the town. In a provincial capital it is not surprising that particularly extensive monumental building should take place but the attention paid to the main streets here is noteworthy.

In details the builders at Bostra utilized elements common in other Syrian cities such as consoles attached to columns to carry honorary statues and pillars terminating the colonnade at corners to carry arches over the roadway of a cross-street entering the main one (F on Plan 19). Bostra does provide evidence that street-lighting did exist in the form of a "torch-holder" set on a console of a column.[147]

A final suggestion may be made about street management here. A glance at the plan indicates that in the Nabataean eastern quarter there are some structures connected with the principal decumanus. These are decorated with the Nabataean

form of capital which seems to have been superceded by Corinthian and Ionic in the years following Bostra's annexation in A.D. 106. The main structure to be noted is the group of four piers with Nabataean pilasters standing on the continuation of the decumanus 125 m. east of the East Arch (G on Plan 19). The pilasters carrying the capitals faced inwards towards the roadway in each case. The north and south pairs are separated by a roadway which is 11 m. wide indicating that the decumanus became wider after the East Arch. On the inside faces of the north and south pairs there is a tall pedestal from which the springing of arches begins (Fig. 3). The arrangement is comparable to that at Apamea where Corinthian pilasters continue the line of the street-colonnade while on the inside face of each pilaster there is a pedestal from which springs the arch which spans the width of a side street meeting the main street. The span covered by the arches at Bostra is 8.10 m., a suitable width for an important north-south street joining the decumanus. The decumanus itself was not spanned by arches since there are no pedestals on the north and south faces of the piers. There is no evidence at present for colonnades in the immediate vicinity of the structure so one must suppose it was free-standing at an intersection. Its apparent date is still in the Nabataean architectural period. Hence the utilization of forms designed to mark intersections must have had a wide currency in the early Imperial period.

There is, moreover, a solitary Nabataean half-column

(E on Plan 19) which lines up with both the southeast corner of the East Arch and the southern pair of Nabataean piers of the structure at the intersection to the east. It must have formed one element in a line of such columns extending along the south side of the decumanus but for what distance and as part of what structure cannot be ascertained. The size of the column (Lower D. 1.32 m. Est H. 10 m.) makes it unlikely that it formed part of a colonnade stretching from the East Arch to the Nabataean monument at the intersection. Nevertheless, it is noteworthy that Nabataean builders were employing columnar architecture in relation to their streets.

Apamea[148] (Plan 20)

Existing at Apamea from the Seleucid period is a regular grid of streets imposed over the entire extent of the city. Changes in the Roman period included the implantation into this system of two crossing main arteries which divided the city into four quarters[149] and imparted a Romanized appearance to the Hellenistic grid. Modifications which allowed two streets to emerge as dominant within the grid system included additional width (the cardo varies between 20.79 and 23.50 m.) and colonnades, 7 m. wide, set on both sides of these streets.

The dimensions of the finished ensemble are comparable to those of the Transverse Colonnade at Palmyra with an order 9 m. high flanking a very wide roadway. The cardo is 1,600 m. long; hence, Apamea ranks with Antioch, Palmyra and Gerasa in the extent of the undertaking. Like the other Syrian cities construction appears to have occurred in successive phases

spread over at least a century. Evidence exists for the cardo which shows that methods exactly like those observed for the Grand Colonnade at Palmyra were utilized. After a levelling of the roadway in the middle of the first century and a first laying of the polygonal paving, porticoes were undertaken at the north end in the first quarter of the second century. For this building period there is inscriptional evidence dating to the reign of Trajan.[150] The central section of the roadway exhibits a particularly extravagant architectural character with spirally-fluted columns. Inscriptions from this area date to the middle years of the second century.[151] The final section of roadway ending at the South Gate, which is again architecturally different, dates from the second half of the second century.

The use of various types of architectural decor is indicative of the sectional nature of the building operations. Smooth, straight-and spirally-fluted columns as well as both the Doric scheme of triglyph and metope and acanthus rinceau for friezes were utilized.[152] Monotony and uniformity, therefore, could not result over the 1,600 m. of street embellished. Additional devices utilized to break perspectives and create eye-catching detail are a decorative column on a tall pedestal set in the roadway,[153] a tetrapylon at an intersection, piers decorated with Bacchic reliefs at intersections and the consoles on columns to carry Imperial statues.

An unusual feature at Apamea which has not been

paralleled elsewhere, probably due to the state of preservation of the ruins rather than to its uniqueness at this site, are the painted inscriptions and extensive decorative schemes found on the back wall of the colonnade on the west side of the cardo.[154] One format goes so far as to imitate architectural decor (architrave and frieze) in order to create a very monumental effect.

The colonnades of the principal decumanus have not been cleared and are known only from scattered remains. A glance, however, at Plan 20 is enough to show that the cardo and decumanus here operated very much like those at Gerasa, though the latter city boasted two principal decumani. The continuous facade along both streets defined the length and breadth of the city and bounded the inner sides of the four Roman quarters. The cross thus clearly demarcated imparted a distinctively Roman appearance to the plan. The colonnades, in addition, fronted and provided access to the major public monuments of the city which were all to be found on either side of the two streets.

Philadelphia[155] (Plan 21)

The lay-out of the main roadways at Philadelphia recalls the irregular configurations found at Bostra and Palmyra. Despite its Ptolemaic and Seleucid connections in the third and second centuries B.C., it appears that a grid plan was never imposed on the site. This situation carried over into the Roman period when two main streets were created by means of an overall decorative scheme and with the purpose of providing

direct passage through the entire city, at least from east to west. The decumanus was probably created from two pre-Roman streets whose situation had been determined by the terrain. Like the Grand Colonnade at Palmyra, this street became one identifiable entity when systemitization of the townscape occurred under Roman influence.

The other colonnaded street, running in a NW-SE direction, serviced the northwestern quarter of the city and joined the decumanus almost at right angles.

Both streets had a width of about 8.40-10.00 m.; hence, they fall into the category of functional thoroughfares of standard size rather than into the group of grandiose undertakings. Only fragments of the Corinthian order from the colonnades have been found.[156] It is a pity that so little of the building here has survived since the planning and execution of the details would probably have related this site closely with Palmyra and Bostra.

The date of construction cannot be ascertained since no inscriptions or remains of architectural decor are available. The presumed date would be in the second half of the second century when monumental building aligned with the street system and on the acropolis is known to have been underway.[157] The porticoes around the so-called Forum (A on Plan 21) are dated by inscription to A.D. 189. An inscription to Antoninus Pius was found in the theatre and the temple on the acropolis was to dedicated to Marcus Aurelius.

In the general group of cities having two or more main

axes colonnaded may be placed a few other sites for which there is little published evidence and, in most cases, little in the way of architectural remains.

For Laodicea-on-the-Sea (Plan 22) there is the work of J. Sauvaget.[158] He has extracted the ancient street system from the modern lay-out by careful tracing of the scattered ancient remains such as columns still in situ from the colonnades of the streets. The site had a grid from its Seleucid foundation and in the Roman period it was a simple matter to single out a few streets as main thoroughfares serving gates or important monuments. The results recall very much those of Gerasa with one colonnaded cardo and three (two at Gerasa) colonnaded decumani. It is impossible now to ascertain whether the streets were colonnaded for their entire length although on analogy with cites such as Gerasa and Apamea it seems likely. It is clear from the remains, however, that individual stoas with differing decoration made up the continuous facade along at least one of the decumani. At one point the columns are made up of limestone drums while further west the shafts are monolithic granite.[159]

The cardo and two northernmost decumani functioned as traffic routes through the city since they led to city-gates. Since the bazaars of the modern city were established on the line of the central decumanus Sauvaget postulates that this colonnade had in addition an important commercial function in the Roman city.[160] The southernmost decumanus ended at a quadrifrons arch set at the foot of hills which may have

marked the farthest east the city could expand at this point. Since the road could not terminate at a city-gate this arch probably took the visual place of such a structure. The decumanus terminated in the west at the port so its importance too was as a means of access to this area from the south-east quarter of the city.

The Roman cross-plan for colonnaded streets is found outside the Syrian architectural milieu at two sites whose remains are unfortunately almost unpublished. In Egypt Hadrian's foundation on virgin soil, Antinoopolis,[161] had a square plan revolving around two straight crossing streets which divided the city into four unequal quarters (Plan 23). Since it was a new foundation the possibility for creating spacious main thoroughfares existed. These, therefore, are wider than usually encountered, having a breadth of 16 m. At some point both streets were adorned with colonnades for their entire length. Remains of monolithic column shafts can be seen along both roadways.[162] It is tacitly assumed by the authors cited that this work occurred at the time of foundation but there is no evidence either to support or disprove this thesis in the present state of our knowledge.

Even more tantalizing in terms of our suppositions about the diffusion of specifically Roman forms of architecture is Bactra (modern Balkh) in present-day Afghanistan (Plan 24).[163] The site was surveyed by the French in the 1940's and the resulting plan published by Schlumberger shows a city traversed by two straight crossing streets bordered by

columns in places. Originally a Greek foundation, the city was no doubt endowed with a grid from the start. The origin of the porticoes set along the streets must remain uncertain. It is known that from the end of the first century the city was part of the holdings of the Kushana kings who took models for their coinage from the Roman West.[164] It is not unconceivable that they looked for architectural prototypes as well in the Roman world.

Continuing the traditions of military architecture discussed in connection with the original planning of Timgad, a camp was implanted on the north-western quarter of Dura-Europos in the Severan period.[165] The backbone of the camp's lay-out were two streets crossing at right angles and adorned with colonnades on both sides. Unlike the majority of military establishemnts, however, Dura's camp was set on expropriated land within the original outlines of the city and in it existing streets were utilized for access routes. Two of Dura's original roads became the via principalis and via praetoria by the addition of colonnades along the relevant portions. The work would all belong to one period, ca. A.D. 211-212, the years in which an inscription indicates the praetorium was constructed.

As far as can be reconstructed for Jerusalem,[166] the city was traversed by two north-south colonnaded streets converging in the northern end of the city at the Damascus gate (Plan 25). The Madaba mosaic of ca. A.D. 600 provides the basis for any discussion of the city's streets and on it the

only indication of a colonnaded east-west street is one column set on the street leading from the eastern cardo to the East Gate. This cannot be taken as conclusive proof that no others existed or that this decumanus did not traverse the city. The bird's eye perspective used for the depiction allows a more comprehensive presentation of buildings lying on the north-south line.

It is apparent from the mosaic that the Roman embellishments of Jerusalem's streets took place on the existing layout.[167] The eastern cardo makes a sharp turn in order to debouche into the same oval piazza as the western cardo. Both the oval piazza and noticeable change in direction recall configurations at Palmyra. Like the Grand Colonnade, the eastern cardo at Jerusalem may represent the regularizing of two earlier streets into one main thoroughfare servicing the whole of the eastern half of the city.

Again for this city there is no evidence for the date of construction of the colonnades. It is clear that they were not uniform for their whole length and they may well have been built over an extended period of time as on other sites.[168]

Ten cities belong to a group characterized by one axial avenue embellished with monumental architecture. Usually the entire length of the road was so treated. Several of the streets in this group are noteworthy in that the colonnades in each case were constructed according to an over-all plan at one time. The date assigned to four of these schemes is Severan and points to the conclusion that by this period

such layouts had become recognized as a building type. The towns and cities endowed with a colonnaded street at this time were entering into the general move toward monumentalization of their appearance but at such a late stage that a definitive form had by then evolved for major streets. It is also noteworthy that for the streets executed according to a single plan, imperial subsidies to finance the project can sometimes be surmised. This would certainly be the case for the Severan building program at Lepcis Magna and possibly for the one at Timgad.

At Lepcis Magna[169] and other North African sites the Eastern format for streets did not appear until the Severan period. As we have seen roadsides were often treated in the Italic fashion with dependent, inexpensive porticoes attached to buildings lining the streets, but street-architecture for its own sake is an importation that required the direct influence of architects and planners from the Eastern Mediterranean. The street at Lepcis (Plan 26) is one element in a large program that involved an entire quarter within the city. The function of the colonnades is to provide a unifying factor for the whole scheme, joining the individual buildings or areas together (harbour area to the Forum and Basilica) and joining the Severan quarter to the older area where the Hadrianic Baths stand. A visually repetitive scheme such as the colonnades clearly makes the point that the diverse buildings which they front and join are treated as a unit. This fact is further underlined by the use of the same unusual

architectural decor for both the Forum and the street. The capitals are the acanthus-and-lotus (or-flute) type and the columns carry an arcade rather than a lintel. Shops included as part of the scheme behind the colonnades provided a new and ordered commercial zone close to the harbour. The magnificence of the end result both of materials (marble) and of size (20 m. wide roadway) is in keeping with its role in the Imperial quarter of Lepcis.

At Timgad[170] the colonial foundation of A.D. 100 was expanded in the Severan period in a westerly direction (Plan 27). The streets in the new suburban quarter ignored the earlier arbitrary orientation with the points of the compass and instead took as their point of departure the natural line of the highway in existence before the foundation of the colony. The highway became what we call Lambaesis Avenue, the main thoroughfare in the new quarter. A colonnading scheme was part of the building program for the street and was done on a much more lavish scale than the squat Italic street-side porticoes to be found in the original foundation. In fact a complete reversal has occurred in the intervening century since in the Severan scheme the emphasis has shifted from the roadway to the porticoes which are no longer treated as subsidiary elements. In Lambaesis Avenue they each have a width of ca. 7.25 m. while the roadway is only 6.50 m. wide.

Decentralization of commercial activities is seen here as the shops behind the porticoes provide space in addition to that available in the market of Sertius also donated and

built in the Severan period in this quarter of the city. The position of these shops on or near the main highway made them prime commercial property.

There is no inscriptional evidence to identify the builder of the street-architecture here. The scheme was installed as one unit and it is possible that Timgad may have benefited from Imperial generosity in the funding of such an undertaking. Once, however, the colonnades of a street were recognized as a building type, it is possible that one citizen would contribute a whole street. The earlier trends in private benefaction had seen individual donors contributing stoas of limited length. Time and the natural evolution of the form may have changed donors' attitudes towards funding projects for streets. Just as Sertius contributed the large market building that bears his name, so one person may have donated the embellishments for the entire street.

Very close to Lepcis Magna's street in function and size, is the recently discovered decumanus at Utica (Plan 28).[171] It would appear to have been a creation of a single period since the depression, long thought to be a canal, was artificially created to accommodate the 18-20 m. wide roadway with 7 m. wide porticoes on either side. The purpose of this monumental way was to join together new monuments such as the baths and theatre built in the Severan period, and to link the two lower quarters of the city. The excavators think it may have continued on right to the port. In the sondages shops have been found behind both colonnades; hence, as is

usual commercial activities were a part of the architecture's purpose. Unusual though is the expense lavished on the shops. Marble paving and revetment belonging to them have been uncovered though the limited nature of the excavations so far makes it impossible to know if this was the standard treatment.

Uncommon in terms of its position is the decumanus at Samaria-Sebaste (Plan 29).[172] It has now been traced for a total of 900 m. joining two gates in the city wall. But as the original excavators point out, the street does not run through the civic centre of the city. These buildings (forum, basilica etc.) are located about 150 m. to the north on much higher ground. Hence its purpose cannot have been as a monumental means of access to the important meeting places. The carefully constructed shops for its entire length on both sides have led to the street's identification as a bazaar in the eastern tradition now known in the souk.

It is apparent that the implementation of the building program was a large undertaking that required quarrying of the hillside to create a bed for the roadway, recalling the creation of a level area for the roadway at Utica. The excavators in the 1930's concluded that the entire construction took place in the Severan period as part of a city-wide building program that saw the construction of the colonnades of the forum, basilica, stadium and theatre. All the architectural decor from these buildings is in the same style. In the excavations in the 1960's one example of a capital in a

different style was found and Zayadine postulated two building periods for the street, one Severan and one in the second century. Without an illustration of the capital it is difficult to accept or reject his claim. The artificiality of the street's position, however, argues against an earlier phase. It seems more reasonable to accept a different school of carving or a reuse for Zayadine's "earlier" capital.

At Petra[173] (Plan 30) the functions of the colonnaded decumanus within the over-all plan are more complex. Since the first century B.C. successive roadways covered with gravel exist on the same line as the Roman roadway. At the road's western end lies the sanctuary known as the Qasr el-Bint, constructed in its present form at the end of the first century B.C. Hence, a primary reason for the road's establishment is its function as a Sacra Via. In the Roman period the decumanus also led past and gave access to the important civic buildings which stood on ground originally occupied by poor houses in the early Hellènistic period. As a result of the importance of the street at least from the Augustan period onwards, special architectural treatment utilizing the accepted elements was accorded it during the second century.

The absolute dating of the architecture along the decumanus is impossible in the present state of knowledge. Much of the dating material was inadvertantly lost after the excavations. A relative chronology in the second century is possible on the basis of archaeological evidence but the final statement on Petra's position in the more general

picture cannot yet be made.

Finds beneath the pavement of the roadway indicate that the first paving occurred not before the end of the first century. The colonnades on both sides of the street are not necessarily contemporary with the paving but were constructed before the building of the present arched gate at the western end of the street. The pavement of the roadway was altered for the creation of a small piazza between the gate and the street and the ends of the colonnades adjusted to suit the new arrangements. An inscription naming Trajan on voussoirs found in the area of the Upper Market (A on Plan 30) cannot necessarily be connected with the colonnades as has sometimes been implied since the arch could have topped any entrance from the street-area whether there were colonnades on the street or not. The date for the arched gate which formed the architectural transition between the street and sanctuary has generally been placed on stylistic grounds in the second half of the second century though this date is not always accepted.[174]

In the case of Petra the final solutions for the problems of dating need not concern us. Suffice to say that standard forms current in the eastern Mediterranean region were instituted in Petra during the course of the second century. The roadway which presumably took processions to the sanctuary was surprisingly narrow being only 6 m. wide. When the monumental gateway was added at the western end the vista down the roadway was closed and at the same time a suitably

grandiose entrance greeted the visitor to Petra's most important sanctuary The colonnaded street as Sacra Via-gate-sanctuary complex is known again at Pergamon at the Sanctuary of Asklepios though here in purer form since we are outside the city proper. No major public buildings flank Pergamon's Sacra Via. At Petra the colonnades of the decumanus provide not only the monumental decor suitable for a religious way but also the unified continuous facade for a functional city street masking the discrepancies in alignment and differing appearance of the civic buildings lined up on either side.

A reconstruction of the Roman appearance of Damascus (Plan 6)[175] indicates that its main artery lined with columns was a decumanus joining two gates in the city-wall. The street was of average proportions having a width of 13.68 m. for the roadway and 6.12 m. for each portico. Its length would have been 1,500 m. It recalls very much the Grand Colonnade at Palmyra since two small changes of direction are masked by arches.

Traces of columns have been found in the modern town all along the line of this Roman street. Also found were indications of a tetrapylon at an ancient intersection. The implication of such a structure is that a cardo as well might have been colonnaded producing the typical Roman cross-plan but this cannot now be ascertained. Sauvaget does refute the earlier theories in which several colonnaded streets were postulated for Damascus.[176] The extra colonnades have no basis in the actual remains.

Only one other monumental street can with certainty be attributed to Damascus. This street was a colonnaded Sacra Via, c. 240 m. long, having as its terminus the precinct of the Temple of Jupiter. A monumental triple-arched gate leading from the street to the enclosed courtyard of the Temple can still be made out.[177] At the eastern end of this Sacra Via the author has proposed to place the city's agora since here the modern city shows no traces of a grid system, implying an open space in antiquity. Though we cannot now be sure that an agora necessarily stood at its eastern end, it is safe to say that this colonnaded roadway fulfilled the specific function of a processional way connected with a religious building rather than of an access route important for the whole city since there is no gateway in the city wall at the point where the roadway would have met it.

One may suppose, in the absence of architectural or inscriptional evidence for dating, that the work at Damascus was done in the course of the second century.

Two cities, whose Roman appearance must have rivalled the extant grandeur of cities such as Palmyra, Gerasa and Apamea, are known primarily from literary sources to have had extensively decorated streets. Antioch[178] at which we have looked in connection with early examples of street-management. continued to have its streets rebuilt or further embellished throughout the second century. Earthquakes necessitated the reconstruction of the Herodian-Tiberian buildings as early as the Claudian period though meagre evidence still in situ

indicates that an entire rebuilding at a higher level and with more elaborate architecture did not occur until the first half of the second century. The work appears to have been initiated by Trajan and not finished until the reign of Antoninus Pius. A street at right angles to the main colonnaded street was marked out by the addition of porticoes and at the junction of the two was set a monument which came to be known as the Omphalos. This roadway led from the main street to the river.

Literary evidence for Alexandria[179] indicates that street colonnades were employed extensively to articulate the plan. Achilles Tatius, writing in the second century, found a main street lined with columns on both sides traversing the entire city and joining two gates in the walls. In addition to this principal thoroughfare he noted the Roman scheme of two main colonnaded streets crossing at right angles defining a specific area within the city.[180] That the scenic effects for roadways utilized elsewhere in the eastern Mediterranean were being exploited to the full in Roman Alexandria is a reasonable supposition but can never be proved by excavation. It has been suggested that the Trajanic and Hadrianic arches known from coins, stood as decorative elements on the main colonnaded street.[181]

Relegated to Appendix I are all the other known or suspected colonnaded streets in the Roman world outside Asia Minor. The information about or evidence for these is minimal but in all cases, it should be noted, the authors assume

they are a major traffic artery within the city. A short description and published source is provided for each.

In the first two centuries of the Empire several architectural forms crystallized as images symbolizing the "Roman city". These forms were repeated in every urban centre having pretensions to the status of a city. The colonnaded street slowly acquired a role as one of these universal symbols after hesitant and indeed fortuitous beginnings as a juxtaposition of buildings and roadway. General trends in architecture helped to foster the evolution of the form: an emphasis on the facade as a desirable and useful type of architecture to conceal less aesthetically pleasing configurations, and the striving after baroque effects created on a large scale which could encompass several buildings or a whole area.

It has been said that "the street is a street by courtesy of the buildings that line it."[182] No more convenient and at the same time aesthetically magnificent building-type could have been found to form the borders of Roman streets.

Notes to Chapter III

1. Dio Chrysostom Or. 47.15, trans. H. L. Crosby, Loeb edition.

2. The same town-planning considerations were at work in the West, but in the different physical circumstances governing building opportunities in these cities the resulting architectural ramifications took a different form. See pp. 55-68, the continuation of the Republican Italic traditions in the Roman Imperial West.

3. egs. Gerasa, Perge, Philippopolis, Alexandria, Anazarbus, Antinoopolis.

4. Side, Palmyra, Antioch-on-the-Orontes, Hierapolis-Castabala, Laodicea-on-the-Sea.

5. Soli on Cyprus, Soli-Pompeiopolis (harbour and agora), Antiochea ad Cragum.

6. Damascus, Petra. The Church replaced the temple in this lay-out in the Byzantine period.

7. D. Claude, Die byzantinische Stadt im 6. Jahrhunderte (Munich 1969) pp. 61-63 followed by C. Foss, Byzantine and Turkish Sardis (Cambridge, Mass. and London 1976) p. 152, n. 44. For references to the streets cited to refute the argument of Claude and Foss, see the appropriate sections devoted to these cities in the text.

8. The tradition of a Processional Way goes back to Egyptian and Near Eastern practises. See P. Lampl, Cities and Planning in the Ancient Near East (New York 1968) pp. 18-19 for Babylon and Borsippa and p. 32 for Egyptian examples. Greek examples are the Avenue of the Lions on Delos, the Avenue of the Branchidai at Didyma and the Road of the Tripods and the Panathenaic Way at Athens. The Hellenistic Sacra Via leading to the Asklepeion at Pergamon was embellished with statues and a Heroon and the Sacra Via leading to the Temple of Dionysus on the theatre terrace was enclosed by colonnades.

9. The late Roman and Byzantine equivalent of the colonnaded Sacra Via is the colonnaded forecourt leading to the "Sacred Portal" of Imperial residences, for example at Split. As mentioned above, in a Christian context the Church would stand in place of the temple.

10. O. Vessberg and A. Westholm, Swedish Cyprus Expedition IV,3. The Hellenistic and Roman Periods in Cyprus (Lund 1956) pp. 8-9 and fig. 10.

11. See p.379ff. This had been preceded in the early Roman period by the Via Tecta leading from the area of the Roman theatre to the sanctuary, a distance of about 800 m.

12. See M. Gawlikowski, Palmyre VI. Le temple palmyrénien. Étude d'épigraphie et de topographie historique (Warsaw 1973) pp. 24, 82.

13. The architectural arrangements along the Sacra Via are very poorly published. For notices and a plan, see R. Goodchild, Cyrene and Apollonia. An Historical Guide (London 1959) p. 64; S. Stucchi, Architettura Cirenaica (Rome 1975) p. 275 and Plan I; A. Rowe, D. Buttle, J. Gray, Cyrenaican Expedition of the University of Manchester 1952 (Manchester 1956) p. 28 and City Plan.

14. M. Gawlikowski, op. cit., (n. 12) pp. 15, 23, 87.

15. For Petra, see I. Browning, Petra (London 1973) passim for references to the street.

16. R. Martin, L'Urbanisme dans la Grèce antique (Paris 1956) p. 122-3.

17. Arguing for predominant axes governing the grid system in Seleucid foundations are J. Lauffrey, "L'Urbanisme antique en Proche Orient," Acta Congressus Madvigiani IV (1954) (Copenhagen 1958) p. 24 and E. Frézouls, "Observation sur l'urbanisme dans l'orient syréen," AAAS 21(1971)= IXième congrès international d'archéologie classique (Damascus 1969) Orient, Grèce et Rome p. 233. Their thesis is difficult to prove since the pre-Roman outlines of Apamea, Damascus, Cyrrhus and Gerasa are almost impossible to recover. Certain roads may have had a greater width because of the amount of traffic on them, but the idea of two privileged axes defining the entire outline of a city seems a specifically Roman development.

18. F. Castagnoli, Orthogonal Town Planning In Antiquity (MIT Press Cambridge Mass., London 1971) pp. 96 ff.

19. J. Sautel, Les découvertes archéologiques de Vaison-la-Romaine de 1907 à 1937 (Avignon 1937) Plan I, p. 60 fig. 42, p. 61.

20. A. Boëthius and J. P. Ward-Perkins, Etruscan and Roman Architecture (Harmondsworth 1970) p. 343 fig. 131 and p. 305 fig. 118.

21. A. Boëthius, The Golden House of Nero: Some Aspects of Roman Architecture (Ann Arbor 1960) p. 143 fig. 77, p. 144 fig. 78.

22. R. Meiggs, Roman Ostia (Oxford 1973) Pl. VIIIa, pp. 135, 138.

23. D. Boskovic, N. Duval, P. Gros and V. Popovic, "Récherches archéologiques à Sirmium: Campagne Franco-Yougoslavie de 1973," Mélanges de l'école française de Rome. Antiquité 86(1974) pp. 605, 612, and fig. 7.

24. M. I. Rostovtzeff, A. R. Bellinger, F. E. Brown and C. B. Welles, The Excavations at Dura-Europos. Preliminary Report of the Ninth Season of Work 1935-36. Part I. The Agora and Bazaar (New Haven, London 1944) pp. 60-68, figs. 17, 78, 80, 84.

25. S. Dahmani, Hippo Regius (Algeria 1973) pp. 33 and Plan III.

26. D. E. Strong, "Septimius Severus at Lepcis Magna and Cyrene," The Society for Libyan Studies. Fourth Annual Report (1972-73) p. 28.

27. K. M. Swoboda, Römische und romanische Paläste (Vienna 1919) p. 252, fig. 97.

28. R. Thouvenot, Maisons de Volubilis: Le Palais dit de Gordien et la Maison à la Mosaïque de Venus (Publications du Service des Antiquités du Maroc. Fascicule 12)(Rabat 1958) pp. 10-16, figs. 6 and 8.

29. See Y. Allais, "Les fouilles de 1950-1952 dans le quartier est de Djemila," Libyca 2(1954) pp. 344-346, figs. 2 and 49 and M. Blanchard-Lemée, Maisons à mosaïques du quartier central de Djemila (Cuicul) (Aix-en-Provence 1975) figs. 2, 49, 62, 82, pp. 23, 182.

30. R. Étienne, Le Quartier nord-est de Volubilis (Paris 1960) pp. 16, 28-30, 143-149 Plans I, II, IV-VIII, XIV, XXII-XXVIII, Pl. XXXIV, XI, 1 and 1.

31. J. Baradez, "Nouvelles fouilles à Tipasa. La Maison des fresques et les voies la limitant," Libyca 9,1(1961) pp. 100-106, figs. 32, 33, Plans I-III, V.

32. H. C. Butler, The Publications of an American Archaeological Expedition to Syria in 1899 and 1900. II. Architecture and other Arts (New York 1903) pp. 127-128, 167-168, 265-266 and Syria. Publications of the Princeton University Expedition to Syria in 1904-5 and 1909. II. Architecture. B. Northern Syria (Leyden 1920) pp. 161-162, Ill. 173, pp. 176, 189.

33. For the continuation of this tradition in the Medieval period, see the article by A. Boëthius, "Urbanism in Italy," Acta Congressus Madvigiani IV (1954)(Copenhagen 1958) pp. 89 ff.

34. For the Neronian reconstruction of the Sacra Via see E. B. van Deman's articles, "The Neronian Sacra Via," AJA 27 (1923) pp. 383-424 and "The Sacra Via of Nero," MAAR 5 (1925) pp. 115-125. Also, M. E. Blake, Roman Construction in Italy from Tiberius through the Flavians (Washington 1959) pp. 44-46.

35. Tacitus, Ann. XV,43 and Suetonius, Nero 38,1. For a commentary see W. L. MacDonald, The Architecture of the Roman Empire I. An Introductory Study (New Haven and London 1965) p. 29 and A. Boëthius, "The Neronian Nova Urbs," Corolla Archaeologica pp. 84-97.

36. For a restoration see Pl. 64, van Deman, MAAR 5 (1925).

37. R. Cagnat, Carthage, Timgad, Tébessa et les villes antiques de l'Afrique du Nord (Paris 1909) p. 47 and CIL VIII, 17, 843 for the inscription. For these camps with plans and discussion see, H. V. Petrikovits, Die Innenbauten römischer Legionslager während der Prinzipatszeit (Germany 1975) pp. 53, 140-144, figs. 1, 5, 6; note that his theory that the tabernae behind the porticoes housed the men and horses of the cavalry appears to have no basis in fact.

38. See J. B. Whitwell, Roman Lincolnshire (Lincoln 1970) pp. 30-31 and fig. 3 and "Lindum Colonia" in the Princeton Encyclopedia of Classical Sites (Princeton 1976) for further bibliography. I wish to thank Mark Hassall for suggesting the comparison between Lincoln and Timgad. C. Courtois in Timgad, Antique Thamugadi (Algiers 1951) p. 16 puts forward the suggestion that Timgad had a brief period as a camp for the Legio III Augusta before being given colonial status and a permanent foundation in the reign of Trajan. If this were true, the pattern at Timgad would bear an even closer resemblance to that at Lincoln where the colonnaded street of the civil establishment was likely to have been directly influenced by the military camp that preceded it on the site.

39. For Lambaesis, see L. Leschi, Études d'épigraphie, d'archéologie et d'histoire africaines (Paris 1957) "Le camp de la IIIe Legion Auguste à Lambèse (Algerie)" pp. 189-299; M. Janon, Récherches à Lambèse," Antiquités Africaines 7 (1973) pp. 193-254; M. Janon, "Lambaesis. Ein Überblick," Antike Welt 8 (1977) pp. 2-20.

40. J.-P. Callu, J.-P. Morel, R. Rebuffet, G. Hallier and J. Marion, Thamusida. Fouilles du Service des Antiquités du Maroc I (Paris 1965) pp. 162-164, Pl. LXXXVIII.

41. For Italica see, R. Nierhaus, "Die wirtschaftlichen Voraussetzungen der Villenstadt von Italica," Madrider Mitteilungen 7 (1966) pp. 189-205; A. Garcia, Y. Bellido, "La Italica de Hadriano," Les Empereurs Romains d'Espagne (Colloques Internationaux du Centre National de la Recherche scientifique) (Paris 1965) pp. 7-16, figs. 1 and 2; J.-M. Luzon, "Italica," Archeologica 60 (1973) pp. 67-72; M. Clavel and P. Lévèque, Villes et structures urbaines dans l'Occident Romain (Paris 1971) p. 104.

42. For a report of the excavations and a synthesis of available evidence for the colonnaded streets see J. Lassus, Antioch-on-the-Orontes. V. Les portiques d'Antioche (Princeton 1972). No capitals, bases or architrave pieces were found.

43. Ibid., Chapter VII, "Documents" and G. Downey in A History of Antioch in Syria from Seleucus to the Arab Conquest (Princeton 1961) pp. 167-188 and in "Imperial Building Records in Malalas," BZ 38 (1938) pp. 300-310.

44. For the archaeological remains see Lassus, op. cit., (n. 42) pp. 16-30, 141-143; R. Stillwell (ed.), Antioch-on-the-Orontes III. The Excavations 1937-1939 (Princeton 1941) p. 13.

45. For a discussion of the problem and a solution, at least to the statements in Malalas, Downey, BZ 38 (1938) p. 13.

46. Lassus, op. cit., (n. 42) pp. 143-144.

47. Ibid.

48. G. Downey, A History of Antioch pp. 140-141.

49. The early publication of Palmyra by Th. Wiegand, Palmyra Ergebnisse der Expeditionen von 1902 und 1907 (Berlin 1932) has been superceded almost completely by the more recent work of the Polish and Swiss teams. These will be cited as used.

50. M. Gawlikowski, Palmyre VI. Le temple palmyrénian. Étude d'épigraphie et de topographie historique (Warsaw 1973) (hereafter Palmyre VI) pp. 15-23 and "Palmyre 1972 (Chantiers remparts)" Études et Travaux 8 (1975) (Travaux du Centre d'archéologie méditerranéenne de l'académie polonaises de sciences, Tome 16) pp. 377-378.

51. Palmyre VI pp. 82, 87-89.

52. H. Saalman, Medieval Cities (New York 1968) p. 31.

53. Palmyre VI, p. 15.

54. See K. Michalowski, Palmyre. Fouilles polonaises 1960 (Warsaw, Paris 1962) pp. 41 ff.

55. A. Sadurska, "Rapport préliminaire de la huitième campagne des fouilles polonaises à Palmyre en 1966," AAAS 22 (1972) p. 123.

56. See Michalowski, op. cit., (n. 54) p. 95, fig. 98 and for an analysis of the capitals, B. Filarska, Studia Palmyrénskie II (Warsaw 1967) p. 80) (I thank Dr. M. Colledge for supplying me with an English translation of Filarska's book.)

57. Dora P. Crouch refers to an unpublished article by Gawlikowski called "Zur Stadtentwicklung Palmyras," in "Use of Aerial Photography at Palmyra: A Photo Essay," Berytus 23 (1975) p. 80.

58. Palmyre VI, p. 67.

59. The main source, although deficient in detail for the architecture of Gerasa is C. Kraeling (ed.), Gerasa City of the Decapolis (New Haven 1938)(hereafter Kraeling). For the historical background in the first century see R. O. Fink, "Jerash in the First Century A.D.," JRS 23(1933) 109-124. Also useful is M. Rostovtzeff, Caravan Cities (Oxford 1932).

60. Kraeling, p. 39.

61. Kraeling, pp. 15 and 40-41.

62. Kraeling p. 153.

63. Kraeling, Pl. XXXIIa.

64. See below p. 85.

65. Kraeling, p. 43 for the inscriptional evidence of donors for the project.

66. Kraeling, p. 380, no. 11, dedicatory inscription from the architrave.

67. P. Collart and J. Vicari, Le sanctuaire de Baalshamin à Palmyre. I: Topographie et architecture (Rome: Institut Suisse. Bern 1969. Bibliotheca Helvetica Romana XI.2 Mission archéologique suisse en Syrie 1954-1966) p. 152.

68. Kraeling, inscriptions 51 and 52.

69. Kraeling, Pl. XVI, no. 4.

70. D. Schlumberger, "Les formes anciennes du chapiteau corinthiens en Syrie, en Palestine et en Arabie," Syria 14(1933)(hereafter, Schlumberger) Pls. XXXVI,2 and 4.

71. The most extensive report about the installations at Corinth is to be found in H. N. Fowler, R. Stillwell, C. W. Blegen, B. Powell and C. A. Robinson, Corinth, Results of Excavations conducted by the American School of Classical Studies at Athens. I,1. Introduction, Topography, Architecture (Cambridge, Mass. 1932)(hereafter Corinth I,1).

72. H. R. Robinson, The Urban Development of Ancient Corinth (American School of Classical Studies. Athens 1965). The site of the actual Classical Greek agora is unknown, but this area around the race-track quickly took on some commercial functions.

73. Corinth I,1, p. 190.

74. The latest evidence from excavation can be found in C. K. Williams II, J. MacIntosh, J. E. Fisher, "Excavations at Corinth, 1973," Hesperia 43(1974) 1-76.

75. Corinth, I,1, p. 154.

76. C. K. Williams et. al., op. cit., (n. 74) p. 32-33.

77. See P. H.vonBlanckenhagen, Flavische Architektur und ihre Dekoration (Berlin 1940) passim.

78. R. Heberdey, G. Niemann, W. Wilberg, Forschungen in Ephesus II. Das Theater in Ephesos (Vienna 1912) passim. An inscription on the architrave provides a Domitianic date, p. 157, no. 34.

79. Heilmeyer p. 67.

80. Heilmeyer Pl. 36, 1-4.

81. Corinth I,1, p. 156.

82. Corinth I,1, p. 138-139.

83. Corinth I,1 p. 138. One other example of the creation of a pedestrian mall in the Early Roman period occurs at Cyrene. See M. Vickers and J. M. Reynolds, "Cyrenaica 1962-72," Archaeological Reports for 1971-72 p. 33.

84. For a description and dating see Corinth I,1 pp. 159 ff.

85. Corinth I,1 p. 175.

86. Lucy T. Shoe, "The Roman Ionic Base in Corinth," Essays in Memory of Karl Lehmann (Marsyas Supplement I, New York 1964) pp. 300-303.

87. Pausanias, II,3,2.

88. H. S. Robinson, "A Monument of Roma at Corinth" Hesperia 43(1974) p. 470.

89. The most recent report with dating evidence for the colonnades of the Panathenaic Way is in T. Leslie Shear, Jr., "The Athenian: Agora: Excavations of 1972," Hesperia 42(1973) pp. 359-407, pp. 370-398, "Stoa on the Panathenaic Way" (hereafter Shear).

90. Shear, pp. 370-378.

91. Shear, p. 377.

92. Shear, p. 378.

93. Shear, pp. 387-389.

94. Shear, p. 389.

95. K. Michalowski, Palmyra (London 1970) p. 7.

96. A. Ostraz, "Note sur le plan de la partie mediane de la rue principale de Palmyre," AAAS 19(1969) pp. 109-120.

97. Palmyre VI, pp. 80-82.

98. B. Filarska, op. cit., (n. 56) pp. 110-111. For the capital see Th. Wiegand et. al., op. cit., (n. 49) Pl. 180.

99. D. Claude, Die Byzantinische Stadt im 6 Jahrehunderte (Munich 1967) pp. 63-64.

100. Ibid.

101. Michalowski, op cit., (n. 95) p. 22; B. Filarska, op. cit., (n.56) p. 85.

102. Filarska, pp. 57, 85.

103. A. Ostraz, op. cit., (n. 96) p. 113. For a study of the arch see R. Amy,"Premières restaurations à l'arc monumental de Palmyre," Syria 14(1933) pp. 395-411.

104. Michalowski, op. cit., (n. 95) p. 17. It is preceded a century earlier by a very similar arrangement at Gerasa where the North Gate was constructed with a V-shape in order to present a perpendicular face to the roadway within and without the walls. See Kraeling, Plan XVII.

105. Palmyre VI pp. 80-82. Filarska, op. cit., (n. 56) p. 112.

106. Ibid., p. 74.

107. J. Cantineau, Inventaire des inscriptions de Palmyre V,3 (Beyrouth 1931).

108. M. Gawlikowski, "Die Polonischen Ausgrabungen in Palmyra 1959-1967," AA (1968) pp. 294-296.

109. Excavations by the Polish team along the Via Praetoria in the Camp of Diocletian are fully reported in K. Michalowski, Palmyre. Fouilles Polonaises 1959 (Warsaw, Paris 1960); Palmyre. Fouilles Polonaises 1960 (Warsaw, S-Gravenhage 1963). For the architectural decor see B. Filarska, "Remarques sur le décor architectural de la voie prétorienne au camp de Dioclétian à Palmyre," Travaux du Centre d'archélolgie mediterranéene de l'Academie Polonaises des Sciences 3(1966) pp. 108-121.

110. K. Michalowski, "Les fouilles polonaises à Palmyre," AAAS 21(1971) pp. 139-140.

111. See K. Michalowski, op. cit., (n. 95) for notices of these streets.

112. Kraeling, pp. 42, 406, inscription no. 69.

113. Kraeling, p. 402, inscription no. 60.

114. Kraeling, p. 410, inscription nos. 78-82.

115. Kraeling, p. 203 and Plan XXIX for the propylon leading to the Cathedral area;Plan XXVIII for the portico on the street and the Nymphaeum; Plan XXIVb for the propylon of the Temple of Artemis, p. 16 and Pl. IIb. See also T. Fyfe, Hellenistic Architecture (Cambridge 1936) p. 82, fig. 24.

116. Kraeling, pp- 155-156, Plan XXIV.

117. Kraeling, P. 157.

118. Kraeling, pp. 424-429, inscription nos. 141, 143, 151, 152, 155.

119. For a reconstruction of the appearance of this tetrapylon in its intersection, see Kraeling, Plan XV.

120. Kraeling, pp. 53 and 109.

121. Kraeling, pp. 411-412, nos. 83-86.

122. Kraeling, Pl. XVIIIb and Plan XVI.

123. Compare to the Temple of Artemis, Kraeling Pl. XXVIIIb or the Hadrianic Triumphal Arch, Pl. X,b.

124. Kraeling, p. 408, inscription no. 72.

125. Kraeling, Pl. IIIb.

126. Kraeling, p. 427, inscription no. 150 and p. 428, inscription no. 154.

127. Kraeling, p. 108.

128. Kraeling, p. 440, inscription no. 187.

129. A. H. M. Jones, "Inscriptions from Jerash Part II," JRS 20(1930) pp. 47-48, fig. 8.

130. Kraeling, p. 414, inscription nos. 105 and 106.

131. Kraeling, pp. 53 and 109.

132. Kraeling, p. 22.

133. Kraeling, inscription no. 65 and 68.

134. Kraeling, pp. 128-129, Pl. XLIIIa.

135. The main source of information for the remains at Bostra is found in H. C. Butler, Syria. Publications of the Princeton University Archaeological Expeditions to Syria in 1904-5 and 1909. II. Architecture. A Southern Syria. (Leyden 1919) pp. 215-195, (hereafter Syria II A).

136. See the City Plan in Syria II A for the complete city.

137. Syria II A, pp. 231, 270 ff, Ills. 206, 207.

138. Syria II A, p. 231.

139. Syria II A, Ill. 217 and Pl. X.

140. Schlumberger, Pl. XXIX,2; XXXIII,1; XXIX 3 and 4; XXXI, 2 and 3.

141. Syria II A, p. 253, Ill. 226 for the capital.

142. Schlumberger, Pl. XXVIII,4.

143. Kraeling, Pl. Xb.

144. Schlumberger, Pl. XXXI,1.

145. Syria II A, p. 255.

146. E. Littmann, D. Magie Jr. and D. R. Stuart, Syria. Publications of the Princeton Archaeological Expeditions to Syria in 1904-5 and 1919. III. Greek and Latin Inscriptions A. Southern Syria (Leydon 1921) p. 252, nos. 563, 564; p. 257, no. 572, p. 266, no. 592.

147. Ibid., inscription no. 550.

148. Recent publications dealing with the streets are J. Balty (ed.) Apamée de Syrie: bilan des recherches archéologiques 1965-68 (Fouilles d'Apamée de Syrie, Miscellanea 6)(Brussels 1969)(hereafter Apamée); J. Balty, "Nouvelles données topographiques et chronologiques à Apamée de Syrià," AAAS 21(1971) pp. 131-135, (hereafter Balty, AAAS 21), J. Lassus, Antioch-on-the-Orontes. V. Les Portiques d'Antioch (Princeton 1972) Appendix, "The Colonnade at Apamea," pp. 152 ff.

149. Apamée, p. 34.

150. Balty, AAAS 21, p. 132.

151. Ibid.

152. Apamée, Pls. XI,1 and 2; XII,1; XX,1.

153. Apamée, Pl. XX,1.

154. Apamée, Pls. XLVII,2; XLVIII, XLIX and pp. 118-119.

155. The remains at Philadelphia can be found briefly discussed in H. C. Butler, The Publications of an American Archaeological Expedition to Syria in 1899 and 1900. II. Architecture and Other Arts. A. Southern Syria (New York 1903) pp. 34-47. See also A. Hadidi, "The Roman Town-Plan of Amman," in R. Moorey and P. Parr (eds.), Archaeology in the Levant. Essays for Kathleen Kenyon (Warminster 1978) pp. 211-222.

156. Butler, op. cit., (n. 155) p. 47.

157. F. Zayadine, "Fouilles classiques récentes en Jordanie," AAAS 21 (1971) pp. 151-152 for the relevant inscriptions.

158. "Le plan de Laodicée-sur-mer," BEO 4 (1934) pp. 81-114.

159. Ibid., p. 85.

160. Ibid., pp. 99-100.

161. For references to its lay-out see J. de M. Johnson, "Antinoöe and its Papyri," JEA 1 (1914) pp. 168-181 and H. I. Bell, "Antinoopolis: A Hadrianic Foundation in Egypt," JRS 30 (1940) pp. 133-147.

162. J. de M. Johnson op. cit., (n. 161) Pl. XXIII, fig. 5.

163. D. Schlumberger, "La prospection archéologique de Bactres (Printemps 1947) Rapport sommaire," Syria 26 (1949) pp. 173-190.

164. M. Wheeler, Rome Beyond the Imperial Frontiers (London 1954) p. 156.

165. For brief notices see M. I. Rostovtzeff, The Excavations at Dura-Europos. Preliminary Report of Fifth Season of Work. October 1931 - March 1932 (New Haven, London, Prague 1934) pp. 206-207 and Pl. III; Caravan Cities (Oxford 1932) pp. 200-207.

166. See the discussion by J. Wilkinson, "The Streets of Jerusalem," Levant 7 (1975) pp. 118-136.

167. I cannot agree with Wilkinson who claims that there was originally a grid plan which was obliterated by the Roman imposition of colonnaded streets. Colonnading is much more easily implanted on a straight street rather than on one with bends. It is highly unlikely that Roman planners would deliberately remove a grid system and create something irregular in its place.

168. Wilkinson, op. cit., (n. 166) p. 120, n. 6, where the extant columns are made from both granite and limestone.

169. M. G. Squarciapino, Leptis Magna (Basel 1966); M. Lyttleton, Baroque Architecture in Classical Antiquity (Thames and Hudson 1976) pp. 284-286; the most detailed discussion of layout and architectural influences is found in J. B. Ward-Perkins, "Severan Art and Architecture at Lepcis Magna," JRS 38(1948) pp. 59-80, though I would disagree with some of the author's general statements about colonnaded streets, e.g., the format is uncommon outside of Syria.

170. See J. Lassus, "Adaptation à l'Afrique de l'urbanisme romain," Le rayonnement des civilisations grecque et romaine sur les cultures periphériques (Huitième congrès international d'archéologie classique (Paris 1963) (Paris 1965) p. 248 and Pl. 41, 3; "Un opération immobilière à Timgad," Mélanges Piganiol (Paris 1966) 1221-1231.

171. A. Lézine, Carthage-Utique. Études d'architecture et d'urbanisme (Paris 1968) pp. 81-86 and 149-154; "Utique. Notes de topographie," Mélanges Piganiol (Paris 1966) 1241-1255.

172. J. W. Crowfoot, K. M. Kenyon, E. L. Sukenik, Samaria-Sebaste. Reports of the Work of the Joint Expedition in 1931-1933 and the British Expedition in 1935 I. The Buildings at Samaria (London 1942) p. 50 ff; for the new excavations in 1965-1967 see F. Zayadine, "Fouilles classiques récentes en Jordanie," AAAS 21(1971) pp. 149-151.

173. P. Parr, "Excavations at Petra, 1958-59," PEQ (1960) 124-135; "Découvertes récentes au sanctuaire du Qasr à Petra," Syria 43(1968) 1-66; D. Kirkbride, "A short Account of the Excavations at Petra in 1955-56," Annual of the Department of of Antiquities of Jordan, 4-5(1960) 117-122 (but note that the author calls the street a cardo); I. Browning, Petra (London 1973) passim for references to the main street; A. Negev,"Die Nabatäer," Antike Welt 7(1976) pp. 21-31.

174. Arguing for a late second century date are Parr in the articles cited in n. 173 and G. R. H. Wright in "Petra. The Arched Gate," PEQ(1961) pp. 124-135. Not entirely convinced by their arguments is J. Starcky in "La civilisation nabatienne état des questions," AAAS 21(1971) p. 83.

175. For Damascus see J. Sauvaget, "Le plan antique de Damas," Syria 26(1949) pp. 314 and 358.

176. Ibid., p. 339.

177. Ibid., pp. 315-317, 341-345.

178. For analysis of work done on the streets in the Roman

period see J. Lassus, Antioch-on-the-Orontes V. Les Portiques d'Antioch (Princeton 1972); A. Festugière, Antioch païenne et chrétienne (Paris 1959)(with an archaeological commentary on The Antiochikos by R. Martin).

179. A convenient source for the pertinent documents is C. Wachsmuth, "Zur Topographie von Alexandria," Rheinisches Museum für Philologie 42(1887) 462-466.

180. Achilles Tatius, V,1.

181. S. Handler, "Architecture on the Roman Coins of Alexandria," AJA 75(1971) p. 71.

182. B. Rudofsky, Streets for People: a Primer for Americans (New York 1969) p. 21.

CHAPTER IV

MONUMENTAL STREETS IN THE LATE ANTIQUE AND EARLY BYZANTINE PERIODS[1]

The development of the colonnaded street as a building type was complete by the Severan period. Subsequently the format was utilized in the altered environment of the Late Antique and Early Byzantine periods but in ways that reflect the profound changes that were occurring in city-life. In many urban centres the conditions which had fostered urban planning and monumental building on a large scale were no longer operating.[2] Increasing urban poverty, both public and private, resulted in a lack of funds for items that were more decorative and symbolic than strictly utilitarian. Exceptions occur in cities benefiting from direct imperial generosity such as Philippopolis and Constantinople.

In some formerly Roman cities circumstances were further altered by the Arab presence. Under Arab domination streets lost the importance they had maintained throughout the Greco-Roman period as the basis for planning. Islamic peoples with a nomadic past and more interest in the other world than in secular monuments brought with them different conceptions of urban requirements.[3] For our history of street-management it is necessary to note only two phenomena in the Arab world.

J. Sauvaget has made a study of the transformation that saw the development of a souk from the architecture of the colonnaded streets in Damascus and Beroea.[4] The roadway itself was built on and used by pedestrians while the porticoes became two covered thoroughfares for riders. Each portico was one-way. The literary evidence for this appearance for the street at Damascus dates from the tenth century but it is likely that the changes began to occur with the Arab takeover of the city. A comparable urban phenomenon did occur in Arab Antioch on the second half of the seventh century[5] when the mosaics of the porticoes were covered with a layer of cement, presumably to provide a better surface for heavy traffic which moved to the porticoes when the roadway was taken over for buildings.

The resulting configuration in these cities was far different from the expansive, monumental conceptions of the Roman period. Two narrow tunnel-like thoroughfares were separated by an area 10-12 m. wide covered with small rooms. The effect would have been very similar to the covered bazaars of the eastern Mediterranean world today.

A more unusual and, for the present, enigmatic Arab treatment of the colonnaded street occurs at Anjar in the Lebanon (Plan 31).[6] The format of the settlement is, of course, copied from the Roman camp and Diocletianic palace-type. It consists of several small palaces within a square circuit of walls pierced by four gates. Two crossing colonnaded streets with a tetrapylon at the intersection form the

basis for the interior arrangements. The entire lay-out and construction has been dated to the Omeyyad period by the excavators who do not think the site has any pre-Islamic past despite a large number of reused Roman architectural members in the Arab buildings. The walls are datable to the eighth century from an inscription and Syrian chronicles attest the foundation of an "Ayn al Jarr" in that period as well.

The problem of this site has not yet been resolved. If it is entirely Omeyyad as the excavators claim, then the site provides an excellent example of wholesale architectural borrowing of ubiquitous Roman-Early Byzantine types. Perhaps the most important fact to explain this possible Arab use of foreign traditions is this site's function as a royal residence, attested by the presence of at least three palaces. When the Ommeyac rulers were learning and, in fact, creating traditions of sovereignty for themselves it would have been natural to appropriate symbols and trappings of power already in use locally such as the fortress-palace of the Early Byzantine emperors.

Of more immediate relevance are the changes wrought by the altered economic and political circumstances within the contracted boundaries of the Early Byzantine world and by the presence of a new governing factor in urban planning, namely the influence and requirements of Christianity. The attitude of Christian authorities to traditional urban planning would appear to be essentially conservative. When the Church is known to have intervened, Classical formats for streets were

maintained and sometimes taken over to be utilized in a religious setting.

The Christian Church acted as a funding body in municipal affairs and would sometimes undertake civic buildings other than churches. At Edessa it is reported that a Bishop Severus, at the end of the sixth century built a palace on the river and in connection with it, porticoes.[7] And at Cyrrhus the public porticoes of the city, as well as bridges and baths, were rebuilt in the first half of the fifth century by a bishop using church revenues.[8]

In terms of actual planning, while local churches contributed to decentralization and to the idea of the neighbourhood, the Cathedral often carried on the traditions of planning associated with an important pagan place of worship. The Sacra Via was as applicable to a church as to a temple ane the idea of colonnading such a roadway seems to have continued sporadically. At Stobi[9] 78 m. at the southern end of the cardo between the Porta Heracleia and the Episcopal Church were lined with a portico on both sides. It was not a particularly monumental undertaking since the roadway was a mere 4.85 m. wide and the porticoes 2.85 m. The architectural elements of the Ionic porticoes do not retain much in the way of Classical elegance since after every two columns is placed a brick and stone pillar to carry an arch of brick as reinforcement for the portico. Nevertheless the intent is Classical since the constructions are an apparent attempt to create a special atmosphere as far as the church. North of

the church the cardo continues without colonnades through a residential sector. Absolute chronologies for the church and the road's embellishments cannot be recovered but the work seems to have been done at various times in the late fourth and fifth centuries.

A Sacra Via leading from the main urban roadway (Via Egnatia) to the rotunda built by Galerius in Thessaloniki was maintained as a monumental colonnaded approach to this building when it bacame the palace church in the reign of Theodosius (Plan 32).[10]

The direct intervention of another institution, the Emperor, fostered urban continuity in the Late Antique and Early Byzantine periods in selected cities. A new emphasis on Imperial mobility, especially from the Diocletianic period onwards, meant that an adequate royal residence had to be constructed in more than one city. Several sites took on the aspect of a capital city of the Roman Empire with the addition of the typical fortress-palace. These palaces contributed to a geographically widespread architectural language for imperial symbolism and kept alive the tradition of the monumental colonnaded street.

At Antioch such a palace was built on an island in the Orontes. The only evidence remaining for it is the literary testimony of writers such as Libanius[11] who describes its two intersecting colonnaded streets of which the shortest arm terminated at the main entrance to the palace itself. The whole was enclosed in a square circuit of walls. Libanius

attributes this building to Diocletian and the literary testimony matches exactly the extant remains of Diocletian's palace at Split (Plan 33).[12] There was, in addition, a camp of the Diocletianic period laid out on the same lines as these palaces in Luxor.[13]

Constantinople's (Plan 34)[14] reworking into an Imperial city began with Septimius Severus whom literary evidence names as the builder of the Tetrastoon, Hippodrome and Baths of Zeuxippus. His work probably included a colonnaded street since it was in his day such a standard element in a cityscape. In the reign of Constantine the city became an artificially created capital with grandiose architectural effects imposed to create the visual requirements of its new status. The street enclosed by colonnades was utilized as the format for the Triumphal Way which led from the Porta Aurea to the Imperial palace. The configuration of palace and colonnaded street here can be seen as an expansion over a larger area of the juxtaposition of the two elements in a Diocletianic fortress-palace. Such streets as these were the most elaborate architectural flowering of the Processional Way in the ancient world.

The literary sources attribute to Constantine the building of the porticoes on both sides of the roadway from the entrance of the palace as far as the Forum of Constantine. Hence the street's appearance was the result of an overall scheme and in its finished form it was treated as a special entity known as the Regia (ἡ Ρηγία), a word which seems to

imply specifically a colonnaded street leading to a palace's entrance. Malalas uses this word to describe the shorter stretch of colonnaded street leading from the Tetrapylon to the door of the palace proper on the island in Antioch.[15] The colonnades were two-storied with the upper level reserved for pedestrians and the lower given over to commerce in the form of temporary stalls. In Constantine's day they were constructed of bricks and wood in the Italic technique which was, no doubt, very familiar to an Emperor born and raised in the West. Because of the perishable materials fires were able to cause much damage. In the reign of Anastasius Constantine's porticoes were apparently completely destroyed,[16] but they were subsequently rebuilt and added to, remaining one of the chief adornments of the city throughout its history. Only a few traces of the colonnades have ever been found[17] and the presence of modern Istanbul probably precludes any hope of many future discoveries.

The final configuration of the main thoroughfare here is the ultimate evolution of a Roman format found at cities such as Soli-Pompeiopolis and Soloi on Cyprus in which a columned street terminates at the agora. In Constantinople the juxtaposition of elements was repeated by having the roadway interrupted at intervals by five Imperial fora.

In imitation of the eastern Emperors, Theodoric endowed Verona with specifically imperial forms of architecture.[18] Important among them is a colonnaded street leading to the entrance of his palace.

There are other instances of new construction of colonnaded streets on a smaller scale during the Late Antique and Early Byzantine periods. Almost always they are in some way the result of direct Imperial intervention or support. For example, in the mid-third century Philip the Arab, as Septimius Severus had done in Lepcis, endowed his native town, Philippopolis in modern Syria, with the architectural elements of the great cities of the Empire (Plan 35).[19] Utilizing the standard Roman plan based on two crossing colonnaded streets with a tetrapylon at the intersection inside a square rampart, Philip's architects created a late example of the urban type. For the details the inspiration seems to come from the major centres of Roman Syria. The order chosen for the colonnades of the streets was a debased form of Ionic[20] without oculi or modelling and having crudely incised details. The choice of that particular order, however, was probably the result of its use right up to the Severan period in highly visible locations at Bostra and Gerasa. The tetrapylon is of the type found at the southern intersection of cardo and decumanus at Gerasa: four square podia each originally carrying columns.

After this special case of benefaction to a hometown and the instances of Imperial construction in their capitals or for their palaces, there is no record of new undertakings which include embellished streets until the reign of Anastasius (A.D. 491-518) when Dara was founded on Imperial orders.[21] Archaeological evidence for its appearance is

lacking but the literary sources for its foundation include, in their descriptions of construction at the time, the term ἐμβολόυs. By the Early Byzantine period, we have seen, the word appears to have acquired the meaning of colonnades along streets or sometimes the entire complex of street and colonnades.

That a new foundation in this period would automatically be endowed with main thoroughfares in some way embellished is likely on the evidence from an excavated site such as Justiniana Prima (Plan 36).[22] The city was laid out with its grid system based on two crossing axes defining the extent of the city. At the intersection of these streets is a large circular piazza of the type found in Roman Gerasa and Palmyra. Procopius (de aed. IV,1,23) speaks of the porticoes as part of the original construction in the city. The author rather incongruously refers to them as "great stoas" (στοων μεγέθη) despite the fact that they were executed in brick and appear from their remains to be quite a modest affair. They, in fact, recall Italic street-side buildings with their brick piers. An Early Byzantine feature, however, is the brick arcade carried on these piers. Around the circular piazza the colonnaded facade continued, but to mark the area as the important hub of the town, the portico was given a more monumental appearance with stone architectural members. It is probable that Procopius exaggerated the attractiveness of the embellishment here through not having visited the city but his mention of the porticoes underlines the fact that

they were, for him, expected elements in any town.

Within the triangularly shaped site of Zenobia (Plan 37)[23] two almost straight streets intersected in the lower city dividing it into four very uneven quarters. The plan is an adaptation of the Roman cross with the decumanus joining two city-gates and the cardo traversing the city from a gate on the south to the acropolis on the north. According to Procopius (de aed.II,8,25) Justinian endowed it with, among other things, στοαί. It is likely that the stoas referred to are the colonnades whose remains of Early Byzantine date have been noted by the excavators.

At neighbouring Resafa-Sergiopolis, for which there is no archaeological evidence, it is possible that Justinian made a similar benefaction. Procopius (de aed. II,9,7) relates that Justinian added στοαί to this city as well and the buildings are probably to be understood as structures along the main streets.

One known example of new construction, undertaken presumably at municipal expense, occurs in Athens in the mid-fourth century[24] though the excavators hint at a possible connection with the Emperor Julian who took a strong interest in the city. A colonnaded street architecturally connected to an ornamental gateway was built over the ruins of the Dipylon Gate and part of the Pompeion. Cost was obviously a factor since the foundations from the earlier buildings and older architectural pieces were utilized for it. Only some of the Ionic capitals were carved at the period of its construction.

Many are reused Hellenistic. The finished product, despite the difference in material, would have recalled that of Justiniana Prima since it was arcaded and of squat proportions (total H. 3.80 m.). Although the construction here in no way approached the massive schemes of the first and second centuries, nevertheless it was probably intended to create a monumental approach into the city and perhaps these colonnades joined up with the stoas of the Roman period which lined the Panathenaic Way. The sophist Himerios does report that in his day (mid-fourth century) stoas lined this roadway from the Dipylon area to the agora.[25]

The Italic traditions for street-management, whose history was confined almost exclusively to the western half of the Empire, survived through the Late Antique and Early Byzantine periods. Many of the later manifestations of the forms developed in Republican Roman architecture are undertakings on a quite extensive scale. Continuing the line of North African examples is the decumanus of Ptolemais[26] which was developed at the end of the fourth century. Porticoes, built of various marbles and granite and in different sizes, were added to the individual facades of the public buildings lining this street. The roadway itself was only 4 m. wide. Slightly raised sidewalks, 2.40 m. wide, preceded the porticoes on either side. To mark the boundaries of the public sector, a Triumphal Arch was placed at the western end and a Tetrapylon at the eastern. Following Roman practice, these structures performed the function of closing the vista to

anyone looking along the street.

Such architectural ensembles in the cities of the western Empire ultimately provided the inspiration for the picturesque streets we can still experience in cities such as Bologna, which boasts thirty miles of porticoes dependent on individual buildings as the result of a fifteenth century law still in effect which requires the owners of buildings to place an arcade in front. The same city has a covered walkway, approximately four miles long, leading to a religious sanctuary and thus acting as a Classical Sacra Via.[27] A monumental revival of the Italic porticoed street was planned for Rome by Pope Nicholas V. The project called for three parallel avenues, each lined on both sides with colonnades behind which were tabernae at ground level and housing above.[28] This particular scheme was never implemented but street-management exhibiting the same functional and aesthetic qualities as that in the Roman world has continued sporadically in Europe up to the present. And colonization in the last century contributed to the even wider distribution of the scheme. A travel writer in 1978 voices the same complaints about the porticoes of Georgetown, Penang as Martial did about those in Rome.[29]

> The colonnaded sidewalks of Georgetown are by no means the preserve of pedestrians, for many of the shop-owners appropriate the space outside their emporia as part of their establishment. For example, the repairers of motorscooters . . . strew greasy bits of machinery all over the sidewalk and calmly work on them there, making it impossible for anyone to pass. If you come upon one of these alfesco workshops, you have

> to wait until there's a gap in the traffic and then leap a broad open sewer into the road, leaping back again into safety when you have passed the obstruction and before an oncoming vehicle mows you down.

A phenomenon particularly to be associated with the reign of Justinian is the reconstruction on an extensive scale of Roman installations. Such work occurred not surprisingly in the most important cities of the eastern Empire such as Apamea[30] and Antioch[31] and was probably intended, apart from the purely functional purpose of keeping the essential elements of a city operative, to have a propaganda value. Visually prominent architectural construction reassured the inhabitants of a city that the economy and government were both strong and still working. Although the Justinianic architects were careful to follow the general outlines of the Roman lay-out, certain changes typical of the Early Byzantine period are apparent. In both Antioch and Apamea two sidewalks are placed outside the porticoes on either side of the roadway thus reducing the width of the original pavement quite markedly. This addition may be indicative of the increased use of the porticoes for commercial activities which hindered the flow of pedestrian traffic and of a tacit acceptance of these activities. Another alteration in traffic patterns occurs at Apamea as a result of the closure of the cardo to wheeled vehicles by means of low cross-walls. The roadway became in effect a souk or shopping mall rather than an important artery of north-south communication. The cross-walls are found opposite the Tychaion and

the Atrium Church (see Plan 20) in the southern section of the cardo. Wheeled traffic could still use the northern-most section of the cardo but presumably would then have to deviate on to the east-west streets. The creation of closed malls is known elsewhere in the Late Antique period. At Hippo Regius in Algeria, a street without colonnades bordering the market bacame a mall in the reign of Valentinian when a new section of paving necessitated three steps across its width.[32]

It is likely that cities in the Late Antique and Early Byzantine periods maintained their architectural framework as long as finances permitted. It is known from excavations that Athens in the first quarter of the fifth century refurbished the porticoes along the street connecting the Greek and Roman agoras.[33] And the Madaba Mosaic of ca. A.D. 600 provides indirect evidence for the maintenance of Jerusalem's colonnaded streets into the Early Byzantine period.[34] But despite the evidence for new street schemes and reconstructions in existing buildings, it is clear from the excavations at many sites that the orderly formats and division of functions established in the first two centuries of the Empire were breaking down under the pressures of conditions in the later periods. Symbols of the breakdown in the old order are the tiny rooms and networks of poor walls hastily thrown together from reused architectural fragments that are encountered again and again. D. Claude attributes this manifestation to a breakdown in civic authority which allowed private

initiative to build at will on public property.[35] The causes of this phenomenon, however, would seem to be more complex. It is possible that construction in streets and porticoes can sometimes be connected with reduced space inside smaller circuits of city-walls. The population whose numbers would still be the same, would be forced to make the most effective use of any open space within the walls to carry on the same level of activity. Increased civic poverty would render monumental architecture from an earlier, more prosperous era a superfluous luxury. A colonnaded street is extremely adaptable for reorganization at little cost. The back wall of a colonnade forms a good starting point against which perpendicular walls can be constructed. A width of ca. 5.50 m., standard for the porticoes, provides an adequate size for rooms. Filling in the intercolumniations was a simple matter and the roof and floor were already in place. In a way, the large number of colonnades encumbered with permanent rooms can be viewed as a systematization of practices dating from the Roman period when stalls or booths of temporary nature were put up by merchants in the shelter of the porticoes. The sidewalks outside the porticoes which were added at Apamea and Antioch may, as was mentioned, reflect the more permanent presence of commerce in the porticoes. The impression created by trade both in the porticoes and in the shops behind must have approached the cramped and cluttered conditions of an oriental bazaar.

Libanius (XI, 254) provides evidence that at Antioch

by the middle of the fourth century commercial stalls were set up εν δὲ τοῖs μέσοιs τῶν κιόνων. Archaeological evidence points to the fifth or sixth centuries as the period in which most cities experienced such building activities in their streets though Petra's coin evidence assigns the first little rooms in the porticoes to the fourth century.[36] Also apparently of the fourth or fifth century is the secondary use of the porticoes at Soloi on Cyprus.[37] At Samaria-Sebaste[38] crude constructions took over the Severan roadway and colonnades in the sixth century.

At Gerasa excavations have turned up evidence for two developments co-existing in the late sixth and seventh century.[39] In the area of the Forum and the cardo immediately to the north are walls of reused materials which transform the Roman constructions into houses and shops. There was not, however, a wholesale destruction or conversion of the colonnades in the city. An inscription[40] of the sixth century commemorates an official who finished some work on the embolos. This inscription was found on the east side of the cardo near the South Tetrapylon and although there is no proof that it belongs to the colonnades of the street, it does seem likely. There are also several short inscriptions of Early Byzantine date and an inscription almost identical to No. 281 carved into drums of columns on the cardo between the South and North Tetrapyla.[41] The short inscriptions all give the name of a person in the genitive and are interpreted as the names of donors of repair work for the portico here.

Since all the Early Byzantine inscriptions originate from the one area in the core of the public sector of the city, it is likely that this area was able to be maintained along Roman lines throughout the later period but that the southern sector was let go to private initiative.

Developments at Palmyra were very like those in Gerasa. In the porticoes lining the streets of the area known as the Diocletianic camp, rough habitations, shops and kitchens sprang up in the sixth century.[42] Gradually the roadway was encroached upon until it had a width of only ca. 3.70 m. at the end of its history. And in Apamea, the reconstructed porticoes of Justinian became blocked with small structures by the first half of the seventh century.[43]

For some reason, perhaps the small size of the population, the integrity of the structures along the Lechaion Road in Corinth was maintained as late as the ninth or tenth century.[44] Only after this date did buildings obstruct the roadway, reducing its width to 2.50-3.00 m., and fill up what was left of the porticoes.

From the foregoing survey of possibilities for the fate of Roman modes of planning for streets in the Late Antique and Early Byzantine periods it is clear that monumental thoroughfares suffered or prospered in relation to the status of the city in which they are found. It is worth noting, too, that the concept of the enclosed, architecturally defined street never entirely disappeared from areas which once had benefited from Roman types of planning and building.

Notes to Chapter IV

1. For the purposes of the discussion in Chapters IV-VI it is necessary to define the limits of "Late Antique" and "Early Byzantine." Following German usage (i.e., spätantike and Clive Foss in Byzantine and Turkish Sardis (Cambridge, Mass. and London 1976), I am utilizing the general term "Late Antique." In this work the term refers to the period from Septimius Severus to Justinian. The years from Justinian to the Arab invasions in the seventh century I call "Early Byzantine." When discussing anything outside these periods I use some form of absolute chronology. I do not wish to enter into any debate about the date at which the Byzantine period begins. My designations can be no more than arbitrary but they have the virtue of being consistently maintained throughout.

2. For a concise discussion and full bibliography with annotations on the subject of the decline in city-life in the Late Antique-Early Byzantine period, see M. Hammond, The City in the Ancient World (Harvard University Press, Cambridge, Mass. 1972) pp. 297-329. For the even greater difficulties in cities in the Byzantine Empire after the introduction of the theme system, see G. Ostrogorsky, "Byzantine Cities in the Early Middle Ages," DOP 13(1959) pp. 47-66.

3. See, for example, the comments of V. Vogt-Göknil in Living Architecture: Ottoman (New York 1966) pp. 47, 50, 55.

4. J. Sauvaget, "Le plan antique de Damas," Syria 26(1949) p. 329, and Alep. Essai sur le developpement d'une grande ville syrienne des origines au milieu du XIX^{e} siècle (Paris 1941) pp. 46, 47, 78, 104, 105.

5. J. Lassus, Antioch-on-the-Orontes. V. Les portiques d'Antioche (Princeton 1972) p. 26.

6. The site is poorly published. See, however, H. Chéhab, "Les palais omeyyades d'Anjar, résidences princières d'été," Archaeologia 87(Oct. 1975) pp. 18-25.

7. Michael Syrus, Chronique de Michel le Syrien II (ed. and trans. J. B. Chapot) (Paris 1901) p. 373. The juxtaposition of building types most probably refers to the standard format which sees a roadway lined with colonnades leading up to the palace's entrance.

8. Theodore, Letter 81.

9. E. Kitzinger, "A Survey of the Early Christian Town of Stobi," DOP 3(1946) pp. 83-161.

10. E. Dyggve, "La region palatiale de Thessalonique," Acta Congressus Madvigiani I (1954) (Copenhagen 1958) pp. 353-365.

11. Libanius, Orationes XI, 203-7. See also G. Downey, A History of Antioch in Syria from Seleucus to the Arab Conquest (Princeton 1961) pp. 643-647 and "The Palace of Diocletian at Antioch," AAAS 3(1953) pp. 106-116.

12. See A. J. Brothers, "Diocletian's Palace at Split," Greece and Rome 2nd series 19(1972) pp. 175-186. For the recent excavations and plans, see J. and T. Marasović, S. McNally and J. Wilkes, Diocletian's Palace. Report on Joint Excavations in Southeast Quarter (Split 1972)

13. A. Boethius and J. B. Ward-Perkins, Etruscan and Roman Architecture (Harmondsworth 1970) p. 459.

14. For a discussion of Constantinople's appearance see R. Guilland, Études de topographie de Constantinople byzantine II (Berlin Amsterdam 1969) pp. 69-76 and C. Mango, The Brazen House (Copenhagen 1959) pp. 73-90.

15. G. Downey, op. cit., (n. 11, second item) p. 114.

16. C. Mango, op. cit., (n. 14) pp. 27-28.

17. M. Harrison and N. Fıratlı,"Excavations at Saraçhane in Istanbul, 1964," TAD 13,2(1964) p. 109.

18. Anonymous Valesianus, 12.71.

19. See H. C. Butler, Syria. Publications of the Princeton University Archaeological Expeditions to Syria in 1904-5 and 1909. II Architecture. A. Southern Syria (Leyden 1919) pp. 359-399.

20. Ibid., p. 379 for a photograph.

21. See W. Ensslin, "Zur Gründungsgeschichte von Dara-Anastasiopolis," Byzantinisch-Neugriechische Jb 5(1926) pp. 342-347 for the passages recording its foundation.

22. For brief reports and plans see C. A. Ralegh-Radford, "Justiniana Prima (Tsaritsin Grad): a 6th Century City in Southern Serbia," Antiquity 28(1954) pp. 15-19; A. Deroko and S. V. Raaljcic, "Les fouilles archéologiques de Caricin Graden 1947," Starinar I (n.s.) (1950) p. 123, fig. 5, for a good plan of the circular piazza and streets leading away from it.

23. J. Lauffrey, "El-Khanouqua. Préliminaires géographiques à la publication des fouilles faites à Zenobia par la Service des Antiquités de Syrie," AAAS 1(1951) pp. 41-58.

24. W. Hoepfner, Das Pompeion und seine Nachfolgerbauten (Berlin 1976) pp. 176 ff., figs. 190-195, 199, 200.

25. H. A. Thompson, R. E. Wycherley, The Agora of Athens (Princeton 1972) p. 108.

26. C. H. Kraeling, Ptolemais. City of the Libyan Pentapolis (Chicago 1962) pp. 74 ff., fig. 18, Plan VII.

27. For an excellent collection of evocative photographs of contemporary porticoed streets in Europe see B. Rudofsky, Streets for People: a Primer for Americans (New York 1969), the chapter entitled "The canopied street," pp. 69-104.

28. A. Boëthius, "Urbanism in Italy," Acta Congressus Madvigiani IV (1954) (Copenhagen 1958) p. 100.

29. Edmond Boyd in The Globe and Mail, Saturday, February 4, 1978, p. 44.

30. J. C. Balty, Apamée, Pl. XIII and AAAS 21, p. 134.

31. J. Lassus, op. cit., (n. 5) pp. 14, 15, 26-29, 148,149, Plans XIV, XV, fig. 36.

32. J. Lassus, "Adaptation à l'Afrique de l'urbanisme romain," Le rayonnement des civilisations grecque et romaine sur les cultures periphériques (Le huitième congrès international d'archéologie classique (Paris 1963) (Paris 1965) p. 255.

33. T. Leslie Shear, Jr., "The Athenian Agora: Excavations of 1972," Hesperia 42(1973) pp. 387-391.

34. See J. Wilkinson, "The Streets of Jerusalem," Levant 7(1975) p. 118.

35. Die byzantinische Städt im 6. Jahrhunderte (Munich 1969) pp. 45, 49, 50.

36. D. Kirkbride, "A Short Account of the Excavations at Petra in 1955-56," ADAJ 4-5(1960) pp. 117-119 and Pl. VII,1.

37. N. Robertson (ed.), The Archaeology of Cyprus. Recent Developments (New Jersey 1975) p. 220.

38. M. F. Zayadine, "Samaria-Sebaste," RB 73(1966) p. 580.

39. Kraeling, pp. 68, 157, 158, 204.

40. Ibid., p. 471, inscription no. 281.

41. Ibid., pp. 412-414, inscription nos. 87-101 and p. 471, inscription no. 280.

42. See M. Gawlikowski, "Die polonischen Ausgrabungen in Palmyra 1959-1967," AA (1968) p. 302; A. Sadurska, "Rapport préliminaire de la huitième campagne des fouilles polonaises à Palmyre en 1966," AAAS 22(1972) pp. 117-128; K. Michalowski, Palmyre. Fouilles polonaises 1959 (Warsaw, Paris 1960) pp. 69-75; . . . . . 1960 (Warsaw, Paris 1962) pp. 55-65; . . . . . 1961 (Warsaw, Paris S-Gravenhage 1963) p. 41.

43. Balty, AAAS 21, p. 134.

44. H. N. Fowler et. al., Corinth I, 1. Introduction Topography, Architecture (Cambridge, Mass. 1932) pp. 140, 150, 151.

CHAPTER V

AN ARCHAEOLOGICAL SURVEY OF SITES IN ASIA MINOR: EXTENSIVE USE OF COLONNADED STREETS WITHIN THE TOWNSCAPE

In several of the larger cities in Asia Minor affluence, topography and long traditions of monumental civic architecture combined to provide an impetus to street-management on an extensive scale. The cities in question are all characterized by having more than one cluster of important civic buildings and more than one major thoroughfare. All the various approaches to extensive colonnading that have been identified and described in the preceding chapters can be found in Asia Minor. A consideration of the chronological details reveals that the acceptance and implementation of the idea of an embellished and enclosed street occurred at a relatively early date in some of the long-established cities such as Pergamon and Perge.

Three cities of Asia Minor exhibit the fully developed Roman plan articulated by two crossing main thoroughfares embellished for their entire length. The three, Anazarbus, Diocaesareia and Perge, lie within the geographical sphere of the south coast, an area divided between the provinces of Cilicia and Pamphylia in antiquity.

Anazarbus[1] (Plan 38)

In the Roman Imperial period two important cities

occupied the interior of Cilicia Pedias, Anazarbus and Hierapolis-Castabala. The history of the former can be traced back only as far as the first century B.C. Epigraphic evidence for building exists for the Domitianic period and sporadic dedications from the first half of the second century are also found. There are indications that in the reign of Septimius Severus the status of the city was greatly improved since it took the title of metropolis for the first time.

The monumental termination at the south end for the cardo is the Severan gate (Pl. 3a). Unfortunately it is impossible without excavation to determine the chronological relationship between the gate and the architecture of the street since for the first 50 m. from the gate nothing remains of the colonnades except the occasional column drum lying in the roadway. It is, in fact, difficult to work out for the first 100-150 m. of the street what actually is the line of the columns. At one point, approximately halfway between the main gate and the crossing of the decumanus and cardo, there is a row of three upright columns standing to half their height. These may represent the original line of the colonnade on the east side of the street. They are in line with the outside wall of the main gate (Fig. 4). The general line of the cardo can be followed for its entire length through the town by the deep depression in the ground (Pl. 3b). The greatest depth occurs in the middle and probably marks the

point where the covered drain ran along the centre of the street beneath the pavement.

In contrast to the colonnade on the east side, the columns of the western colonnade have a slightly different relationship to the gate. They are indeed aligned with the outside wall at the west end, but further out standing almost beyond the western edge of the gateway. The implications of this descrepancy are that gate and colonnades were not constructed at the same time. The correlation between the elements on both sides of the roadway indicates that the colonnades were probably considered as part of one scheme with the gate a subsequent monumental addition. If the colonnades had been built after the gate it is likely that they would have been aligned more uniformly with the gate.

Despite its ruined state, some architectural details can be made out from the fragments of the colonnaded street. The columns are made up of drums from the same distinctive material we find on the decumanus at Hierapolis-Castabala, a soft conglomerate stone. The approximate diameter of the lowest drum is 0.85-0.90 m. The axial intercolumniation is large, averaging ca.3.20-3.30 m. Traces of a back wall for the colonnade are found on the east side of the street where the columns first appear in the southern portion, but little can be reconstructed from the scattered blocks.

One column drum lying in the roadway approximately 75 m. north of the gate has a console carved in one piece with the

drum. It is of a simple squared type lacking the curved lines and acanthus leaf in relief which is standard decoration for these elements. Its form is probably determined by the nature of the material. The only decoration consists of a three-step moulding at the top (Fig. 5). The colonnades at Anazarbus, therefore, resembled in this detail the other examples in Cilicia where this Syrian form of subsidiary decor is found.

Later in the life of the cardo changes were inaugurated which altered its original appearance at one point and may have turned it into a pedestrian mall rather than a thoroughfare for wheeled vehicles. This phenomenon has already been noted at other cities in the Late Antique-Early Byzantine period (e.g. Apamea in Syria). On both sides of the street two parallel walls, constructed of squared coarse-grained limestone blocks laid dry, cut the colonnades and extend well into the roadway (A on Fig. 4). The size of the blocks used varies but the largest are 0.78 x 0.69 x 0.81 m. Some of the blocks are reused Roman architectural pieces. Exactly how these elements related to the street is a problem. At a point on the wall where it stands to maximum height, there is a square pier capital having simple mouldings. On two blocks there are well-cut Christian crosses. In the roadway beyond the line of the earlier columns these cross-walls are broken by openings 2.35 m. wide. These openings are intentional and part of the original scheme for these walls

since the edges of the blocks framing the openings are finished. An arch springing from the pier capital probably originally spanned this opening. In the centre of the roadway the cross-walls are now missing but the existence of the doorways leads to the assumption that originally they continued right across the road, blocking it to all but pedestrians.

At first glance the scheme would seem to be obviously a late addition to the fortifications of the city, designed to serve a smaller area than the original Roman walls. A complication appears in the double nature of the cross-walls. The two walls are separated by 8.05 m., a suitable width for an east-west roadway. The walls peter out very quickly to west and east and all traces on the ground are covered by thick vegetation so confirmation that these are defensive installations is lacking. The fact remains that at Anazarbus an element common in later urban planning occurs. The Roman thoroughfare lost its original outline and function.

The architectural details of the decumanus are better preserved than on the cardo and can be traced almost without interruption from a gate in the walls on the western side of the city to the foot of the acropolis which formed the natural defensive line for the eastern end (Pl.4a for a general view looking east). It is evident that the entire length of the decumanus was not given a uniform architectural treat-

ment. In the eastern arm, between the acropolis and the intersection with the cardo, a colonnade is found on only one side of the street. Lining the edge of the roadway on the south side are door-jambs still in situ (Pl. 4b). Evidence for these doors continues sporadically for the whole length of the decumanus up to its junction with the cardo.

That the columns were found on only one side in this section of roadway seems certain since absolutely no traces of stylobate or columns are found on the south side of the street. Moreover, the decumanus west of the intersection with the cardo has a width of 15.30 m. from axis to axis of the columns on either side of the roadway. East of the intersection the width of the roadway is maintained with a measurement of 15.30 - .45 m. from the axis of the column on the north side of the street to the front face of the door-jamb on the south side.

At the crossing of the cardo and decumanus, a mound indicates that there was probably some sort of architectural structure here marking the intersection. Nothing can be made out about this structure without excavation.

West of the cardo the decumanus was colonnaded on both sides. The columns can be traced again approximately 200 m. west of the cardo. This section is badly robbed out and no architectural fragments remain lying around nor are there traces of shops behind. Only the column stumps can be seen occasionally in situ. The colonnades on this part of the

decumanus are aligned with the horse-shoe shaped arch in the tenth century wall[2] implying that the street was still in use in Arab times. The continuation of the line of each colonnade terminates at the outside edge of the arch. Hence it seems likely that the colonnades were still standing when the arch was constructed in the tenth century.

The architecture of the colonnades on the decumanus, like that on the cardo, is massive rather than elegant. The order is large with columns having a lower diameter of ca. 0.90 m. Each column is made up of three or four large drums, each of which can be as high as 1.77 m. Their estimated height is 6 m. The intercolumniation is ca. 3.35 m. The material utilized for the columns varies. In some instances it is coarse-grained greyish limestone but in most cases it is the same conglomerate stone as we find on the cardo. Two columns in situ on the decumanus have their bases exposed and they exhibit an unusual technique of construction found again at Diocaesareia. The columns sit directly on the stylobate. The bottom of the column is marked by an apophyge below which there is a heavy torus which rests on the stylobate block. The torus seems to take the place of the more normal moulded base and plinth.

The lack of base might lead one to suppose that the order utilized was Doric. A piece from a Corinthian capital, however, was found here. This type of moulded bottom for the column may well have been a time- and money-saving device.

The Corinthian capital fragment from the decumanus (Pl. 5a) has a preserved height of 0.50 m. Only the upper half is extant and it is so badly worn that little can be seen of the details. The volutes and helices are missing and the only clearly defined elements are the acanthus leaves of the upper row. Their type is that having a tall, narrow, ovoid outline. They appear to be early rather than late since there is no stylization of voids or leaf forms. One oval void is extant. The outline suggests a Trajanic-Hadrianic date although without more details it is difficult to reach any firm conclusions.

An entablature block (Pl. 5b and Fig. 6) was found lying at the east end of the decumanus. The form is unusual. There is nothing carved on the soffit. The mouldings do not make it clear whether we are dealing with the frieze block or a variation of the three-step architrave. The preserved length is 1.39 m.; the height is 0.54 m. and the width is 0.35 m.

Of the door-jambs only the lower portion remains (Pl. 4b). They are carefully worked with simple mouldings for a decorative effect. Extant on the inside faces are vertical rows of three cuttings for a door or grill arrangement. Courses of blocks forming the wall between the doors are in situ in several places. The average size of the wall-blocks is 0.60 x 0.70 x 0.50 m. They are carefully worked squared blocks set without mortar. The material for both the door-jambs and the blocks is grey granite. The regular positioning of the

of the doors gives an internal width for these rooms or shops lining the decumanus of approximately 3 m.

West of the intersection with the cardo, the decumanus can be traced by means of partially preserved columns in situ. On the north side of the street there are three columns in a row in situ, providing an intercolumniation of 3.20 m. On the south side of the street, the intercolumniation varies from 3.10 m. to 3.50 m. The lower diameter of the columns is ca. 0.90 m. Lying on the ground in the vicinity of the gate is one fluted column with a lower diameter of 0.80 m. It probably comes from a building set close to the roadway rather than from the colonnades of the decumanus itself since there is no other variation in the type of shaft anywhere on either colonnaded street. They are all smooth.

It is possible that the particularly large columns belonging to the order on both streets indicate a double colonnade. A few architectural fragments are found on the cardo with dimensions which indicate that smaller columns existed in the neighbourhood. For example, there is a plinth and Attic-Ionic base cut out of one block of marble, having a total height of 0.21 m. The plinth itself is 0.60 m. square. Without excavation the double nature of the porticoes cannot be substantiated but the possibility must be considered.

The variations noted above in the material used for the

columns, the differing intercolumniations and the existence of the colonnade on only one side in one section of the decumanus all indicate that the imposition of the colonnades was not necessarily the result of one original governing plan nor were all the colonnades necessarily contemporaneous. Nevertheless the final appearance must have been quite homogeneous due to the massiveness of the order throughout and the preponderance of conglomerate stone for the columns. It seems likely that the work all occurred within a reasonably narrow span of time in which no great changes of taste or of requirements necessitating a markedly different style took place. Although Anazarbus's background and geographical location are not particularly conducive to rapid Romanization, its appearance in the Imperial period belies its remoteness from Italian traditions. The two crossing streets exactly defining the lay-out on flat terrain recall colonial traditions. The elegant proportions of Greek porticoes are lost in the heavy, obviously functional columns of dark-coloured stone lining the streets. Of the three cities in Asia Minor having the cross-plan, Anazarbus exhibits the greatest uniformity and coherence in the imposition of the scheme. Neither street seems, from its proportions or its architectural embellishment, to have assumed a greater importance within the townscape.

Perge[3] (Plan 39)

Perge is an inland city of Pamphylia, lying sixteen kilometres north-east of modern Antalya (ancient Attaleia). Like Anazarbus the city encompassed both a lower town and an acropolis though the contrast between the two areas was much less spectacular in Perge since the hill for the upper city was only some fifty metres high and flat-topped. As at Anazarbus the entire area on the plain was defined by two crossing streets colonnaded for the entire length and breadth of the town. The lengths of roadway embellished at Perge were much less since the cardo and decumanus each have a length of only about 350 metres while the cardo at Anazarbus is about a kilometre long. At Perge the cardo and decumanus divide the area into four very unequal quarters. The positions of the roads must have been determined by their pre-Roman lay-out with Roman planning techniques applied here to an existing pattern in which the roads were not completely straight. The cardo in particular makes an almost 45° bend at approximately the midpoint as it traverses the town (Pl.6b).

Although the details for the decumanus are scanty, the architectural remains of the cardo are well-preserved and extensively cleared (Pl. 6a). Several features make the cardo at Perge particularly notable. Immediately apparent are both the lavish nature of the materials employed and the very high quality of workmanship for all the elements. A closer inspection of the remains reveals that there is a surprising degree of uniformity in the construction of the porticoes and

subsidiary elements for the whole street. It appears, in fact, that the colonnaded cardo at Perge is the result of an over-all scheme being worked out and applied in a short space of time. The capitals, columns and bases are all similar in style and material. In addition the well-built water channel running down the cardo's entire length exhibits only one period of construction. Since, as will become apparent below, the water channel and nymphaeum must have been planned together, we have on this site one of the very few examples of comprehensive street management as early as the mid-second century.

The implementation of such an extensive scheme is all the more surprising when one considers that the work at Perge appears to have been done entirely at private expense. Although there is no inscriptional evidence for the street itself local citizens are named as donors for many of the city's main public buildings. In the first century C. Julius Cornutus and other members of his family donated a palaestra dedicated to Nero.[4] Plancia Magna and her family contributed most of the monumental work at the south end of the city.[5] The name of a donor appears on a pedestal for statues in the nymphaeum at the north end of the lower city although the lack of prominence for the inscription within the building as a whole makes it unlikely that this man paid for the entire structure.[6] The name could well be a later addition.

Classic planning techniques are utilized on the cardo to achieve scenic effects and to attain the complete enclos-

ure of the street along the sides and across the ends. A mall-like configuration resulted which, taken with other constructions situated in the roadway itself, probably precluded wheeled traffic on the cardo.

At the south end of the street there are two terminal elements (Fig. 7). The northern one, visually in closer connection with the columns on either side of the street, is the Hadrianic triple-arched gate (Pl.8b-the base of the eastern pier and some architectural fragments are visible on the right). The treatment of both its faces with free-standing pedestals bearing columns linked by a projecting architrave repeats the lines of the flanking colonnades. Its inscription indicates that Plancia Magna donated the gate to the city of Perge in the lifetime of Hadrian and Plotina. Hence it must date to the period A.D. 117-122.[7] Sculptural decoration was an important element in the gate's appearance with bases from representations of the deified Nerva and Trajan and the mortal Hadrian and Plotina still surviving. The arch's position as a visual terminus assured maximum dissemination of the propaganda value of these Roman Imperial statues.

The arch was in fact the transitional element between the roadway and the oval courtyard of the Hellenistic gateway, developed in the Hadrianic period into an ornamental area enclosed by a two-storied wall with niches for statues

(Pl. 8b -background right) of local citizens and mythical founders. These walls also originally had a columnar treatment applied to their inner face.[8] Since Plancia Magna is known from inscriptions to have contributed to this work as well, the oval courtyard and triple arch are probably to be viewed as part of one building program.

Upon traversing this piazza, one left the main part of the second century city through the Hellenistic gateway which had provided the starting point for Roman planners intent on creating monumental effects at the south end of the city. The finished lay-out, which ultimately included the city-gate, large oval piazza defined by a facade and colonnades of a street all forming a continuous architectural flow, is related to the format found, for example, at Palmyra at the Damascus Gate. Here the street was widened to create a large piazza around which the columns of the Transverse Colonnade continued. Traffic pressures at a main gate would be alleviated in both cases. The same type of ornamental courtyard was created at Perge's close neighbour, Side.

The existence of the Hadrianic courtyard and triple arch prior to the implementation of the street-colonnades is apparent from the adjustments made in the alignment of the colonnades at the southern end of the street. The portico on the west side of the street terminates at the level of the arch and cannot be brought into closer relation with the

gate because of the presence of the arch and wall framing the courtyard (Fig. 7). In addition the same colonnade diverges to the west to allow for the width of the arch. This divergence begins at an intersection about 35 m. north of the triple arch. The colonnade on the east side was allowed to continue along a straight line but stopped short of the arch further north. A Corinthian portico subsequently continued the line of the east colonnade beyond the Hellenistic gate but it was designed to form part of another architectural grouping in the Severan period.

At the north end of the cardo a monumental nymphaeum of facade-type closes the vista to anyone looking north from the street (Pl. 7b).[9] It marked the end of the cardo as a broad thoroughfare. Two passages pierced through the back wall of the nymphaeum led to stairways which provided access up the slope of the acropolis. The structure is aligned exactly with the street and its flanking wings enclose the roadway itself providing, in conjunction with the street-colonnades, a continuous facade right up to the end of the street. The screen of columns on pedestals across the front and along the wings blends well with the architecture along the street. The particular importance of the nymphaeum lies in its close structural connection with the arrangements on the cardo. A wider central intercolumniation in the screen frames the reclining figure of a river god from beneath which water cascades down and over a flight of steps leading into the water

channel which runs down the centre of the cardo (Pl.7b). The plan of the nymphaeum definitely takes into account the presence of a water channel into which the water may flow and it is necessary that both were planned and executed together.

A secure date from an inscription for the nymphaeum would aid any discussion about the chronology of the street-architecture. Unfortunately the only surviving inscription is a minor one of the early third century probably recording repair work.[10] Mansel did not commit himself to a firm date for the construction but the implication in the publications seems to be that the work is Hadrianic, based especially on the finding of two statues of the emperor from the decor of the building.[11] The statues, however, indicate that there is a difficulty in assuming simply that the Hadrianic representations indicate a Hadrianic date for construction since the two depict very different conceptions of the emperor. The cuirassed, sandaled figure represents the type known also from the monumental arch at the south end of the street belonging to a base dated A.D. 121.[12] The nude heroic figure exhibits distinctly different stylistic traits with drilled pupils and its date can be fixed with less certainty. Statues of deities, which also formed part of the decor of the building, have come to light but not all representations have necessarily been recovered. Hadrian's apparent prominence

does lead to the supposition that the structure has some relation to the emperor and his period as we find was the case in the Hadrianic buildings of Plancia Magna at the south end of the street. The positioning, however, and length of the water-channel down the centre of the cardo seem to indicate the prior existence of the installations at the south end since the channel stops just at the point where the colonnade veers to the west and the roadway begins to lose its form, becoming a largo in front of the triple-arch. Since the water-channel and nymphaeum form a unit, it is necessary to date these elements after A.D. 121, the year in which construction was taking place on the triple-arch. The most recent study of the building suggests a date of ca. A.D. 130

on stylistic and historical grounds.

The water-channel has an internal width of 2.50 m. and a depth of 1.17 m. (Pl. 8a). Inside the channel, spaced about every 8 m., there are cross-walls of lower height than the outside walls. There could be a flow of water only when the basin was full. Since the level of the street becomes progressively lower toward the south, the water could be kept flowing through the channel from source to exit. When the water was below the height of the cross-walls pools would be created in each section. This would facilitate cleaning since the basin could be bailed out area by area. In addition there are drainage outlets at intervals in the side walls (Pl. 9a).

The high moulded parapets add to the monumentality of the street and the constant movement of water through the basin would have been cooling and visually pleasing. Additional details broke the monotony of the long channel. An honorific column for a statue stands in one section of it (Pl. 8a). The pedestal raises the column above the level of the water in which it would have been reflected. In the northern sector there are examples surviving of steps on either side and a walkway over the top allowing pedestrians to cross over from one side of the road to another (Pl. 7b). Mansel stated that the crossover is necessarily a later addition but since it does not interfere with the functioning of the water-channel there is no need to suppose that it must have been built later. And it must be remembered that since the channel runs right into the basin of the nymphaeum people would be forced to go back to the main intersection if they wished to cross. Here the higher level of the decumanus is carried over the channel where the E-W street intersects with the cardo.

The water channel terminates at the south in a basin that must have served as a simple fountain for that section of the city (Pl. 9b). The water from the channel would flow into this reservoir which is sunk below the level of the roadway. The bottom is now filled with bushes and refuse so that it is impossible to determine the original depth of the basin but judging from the portion visible, it was at least a metre deep. A balustrade

of the same type as that forming the walls of the channel surrounds the basin on three sides but on the south side there is a lower wall with a rounded top surface which is badly worn and marked (Pl.10a). This ledge would have served as a support for ropes and vessels as water was drawn out of the fountain. The area immediately to the south is badly overgrown, but preserved and visible in the bushes are shallow steps on three sides leading down from the level of the roadway to the small paved square in front of the basin. The simplicity of the nymphaeum at the south end of the water-channel stands in marked contrast to the splendour of the installation at the north end of the cardo.

It is difficult to find any parallel for this monumental stone water-channel in antiquity. It serves the obviously functional purpose of bringing water to the southern sector of the city but the novel method employed must have contributed to the beauty of the city.

It has been assumed that a similar water-channel exists on the decumanus.[15] To the west of its intersection with the cardo there is no trace of any channel. This section of the roadway is poorly preserved but the line of the back wall of the colonnade on the north side can be made out and fallen columns lie in front all along its length (Pl.10b). Nothing on the south side survives above the ground but the presence of structures here is indicated by

the artificially created mound just visible to the right in the photograph. This rise in ground level runs along a uniform line and must mark the southern boundary of the original roadway, allowing a width of only ca. 6 - 7 m. for the pavement. Such a width would not be great enough to allow for the presence of a channel in the centre. Nothing more definite can be made out in this section of the decumanus, but to the east of the cardo there is a smaller open channel of the same type as that on the cardo. It is, however, set at the northern edge of the roadway because of the narrower width of the street (Pl.11a). It is apparent that later planners met with difficulties when adding a colonnade to the decumanus since the pedestals of the columns had to abut directly against the channel which would have provided flowing water just at the level of the base of the column. The dating of the colonnades of the decumanus will be discussed below but a terminus post quem is certainly provided by this Hadrianic water channel built as part of the same water supply system dependent upon the large nymphaeum and channel on the cardo. This open canal would have serviced the eastern sector of the city and probably terminated in the same type of simple nymphaeum as is found on the cardo. The two channels did not meet on the surface. Instead a canal, partly above ground and partly below the surface where it runs beneath the pavement of the cardo, brought water from the main channel on the cardo to the channel on the decumanus.

At some point in time the cardo on the west side of the water-basin in its northern sector became possible only for pedestrians. Between the channel and the stylobate of the portico, a stepped structure filling the whole roadway was constructed (Pl.11b). It consists of a rectangular podium, 6.80 x 7.25 m. at the bottom, with four steps surviving from an originally higher structure. It practically abuts against the stylobate of the portico and is set on the pavement of the roadway, implying that it was an addition after the main period of building. The monument is to be compared with the Early Byzantine group of decorative columns on bases set on the Arkadiane at Ephesus. A Latin inscription was found nearby which refers to the setting up of a column on this base as an offering.[16] It is undated.

Statues originally lined the roadway of the cardo, further reducing the unencumbered space. Most of the bases found in the excavations have now been removed but one is visible in Pl.7a.[17] The presence of the various elements on the roadway seems to preclude a large amount of wheeled traffic on Perge's cardo. The conception of the roadway seems to have been that of a pleasant pedestrian mall. The siting of the mid-second century commercial agora in close proximity to the southern entrance to the city could well be the result of the cardo's nature further to the north (Plan 39). Heavy loads could not easily have been moved within the city.

The dimensions of Perge's roadway are spacious enough to give the street a grandeur lacking in many of the more

strictly functional thoroughfares in Roman cities. The roadway itself measures 19 m. across with each lane having a width of ca. 8 m. on either side of the channel. The porticoes are ca. 7 m. in width. The order is quite small, having a lower diameter of ca. 0.50 m. but since all the columns of the street are set on pedestals, a higher and more elegant portico is achieved without the necessity of increasing the size of the order.

Before discussing the details of the order it should be pointed out that four columns now in place on the cardo's east side, of which one with its Corinthian capital is illustrated in Pl.12a, do not belong to the order of the street-colonnade. They were re-erected from elements that most likely originate from the peristyle of the neighbouring agora which was Corinthian. The columns are noteworthy for the divine and human figures carved in excellent neo-Attic style on their upper quarter.

The order on both sides of the street is Ionic and is very similar in over-all effect to the Ionic colonnaded sacra via at Pergamon. The columns stand on a stepped stylobate whose well-dressed blocks measure 0.95 x 0.56 m. on the average. Since the street level rises slightly toward the north, the stylobate accommodates its format to this change. At the north end of the street the western stylobate has three steps. After the first intersection, ca. 45 m. north of the tripleарch, the stylobate becomes two-stepped and subsequently has only one step. At the very northern end of the cardo, the

stylobate is level with the street's pavement. The eastern portico has a two-step stylobate at the southern end. On the stylobate are set square pedestals with careful mouldings at top and bottom (Pl.12a and Fig. 8). On these stood a plinth and Attic-Ionic base carved in one piece. All the columns are monolithic, smooth shafts and the capitals are well carved Ionic (Pl.13a). Bases, columns and capitals are made from marble, contributing to the costliness of the street's embellishment.

The individual elements on the Ionic capitals are large and heavy, and deeply carved to accentuate differences of light and shade. The broad flat area of each egg contrasts with the sharp line of the surrounding sheath. The sheath is completely but not widely separated from the egg. There is a small technical peculiarity noticeable in the carving. The bottom of the egg is joined to the sheath beneath it by a bridge of marble. The dart has the shape of a plain shaft narrowing to a point on the bottom. The egg-and-dart has three complete elements since the two three-tendril ornaments at the upper corners are confined to a small space. The echinus is narrow. The spiral of the volute is carefully indicated in high relief and begins with a large flat eye in the centre. The treatment and outlines of the elements on the capitals from Perge compare quite closely with the capitals on the Sacra Via at Pergamon (Pl.88a).

Several pieces survive from the architrave, including

one in situ (Pl. 7a). On the soffit various types of decoration appear in panels. These include rows of leaves and an animal hunt-scene in which a dog attacks what appears to be a deer (Pl. 14a). The architrave is three-stepped, increasing in height from bottom to top. The steps are separated by an astragal carved with a bead-and-reel exhibiting elongated, geometrical forms (Pl. 13b). The beads are cylinder-like and the reels are diamond-shaped. At the top of the block there is a series of three mouldings consisting from bottom to top of bead-and reel, egg-and-dart and a lesbian cyma. All three have forms which are heavy and deeply undercut creating strong contrasts of light and dark. In particular the egg-and-dart achieves this effect with its widely spaced elements.

The general appearance of the architrave is exuberant and lush since there is so much decoration but on closer inspection the style of carving appears dry and somewhat stylized because of the emphasis on sharp outlines, contrasting geometric shapes and broad spaces between the elements.

The architrave does not correspond closely in lay-out with the architrave from the Hadrianic triple-arch at Alanya although the style of carving is similar in its dry hardness. The entablature from the arch has a two-step architrave with a lesbian cyma dividing the fasciae. For a very close correspondence of forms and style the architrave from Perge's street should be compared with the architrave from the scene-

building of the theatre at nearby Aspendos.[19] The date of the theatre is fixed by an inscription to the reign of Antoninus Pius.[20] In Perge itself, the same workshop must have produced the architectural decor for the city's theatre.[21] Exactly the same lay-out and forms are found on this building. There is no epigraphic evidence for Perge's theatre. Ferraro without discussion attributes it to the building program paid for by Plancia Magna in the first decades of the second century. She says that the scene-building from which the architrave comes is contemporary or slightly later than the rest of the structure, admitting that it is stylistically like Aspendos which does date to the Antonine period.

The choice of the Ionic order for the street is apparently the only instance of the order's use in the Roman period for highly visible public architecture on the site. The temple of Artemis, still not located, is thought on the evidence of coinage to have been Ionic though it is only the majority, not all of the coins, that show it in this order.[22] This possible example of Ionic would, however, date from the Hellenistic period. Corinthian and Composite were the regular orders for public buildings here. The nymphaeum was decorated with Composite capitals while the peristyle agora and the Severan extension of the monumental centre to the south of the Hellenistic gate were decorated with Corinthian. In fact, when the line of the street-colonnade on the east side of the cardo was extended at the end of the second century

to form both the western boundary for the peristyle agora and part of the Severan piazza, the order was changed to Corinthian (Fig. 7).

A connection for Perge with the workshop which produced the very similar elements for the sacra via at Pergamon is not unlikely since the source of Perge's marble would have been western Asia Minor. The choice of Ionic for two extensive operations may not be fortuitous. Unlike many examples, the colonnaded streets at these sites are not the result of an accumulation of stoas donated individually over perhaps an extended period of time. At Pergamon and Perge a guiding plan seems to have been applied uniformly along the street. Since Ionic capitals would require less time for production and, one suspects, each finished product would cost less than the more elaborate and larger Corinthian capitals,[23] the presence of this order may well be for reasons of economy, both of time and money.

Two types of pavement survive in the western portico. For a distance of ca. 6.30 m. south of the first intersection there are paving blocks laid in somewhat irregular rows. From there south the portico contains traces of mosaic in geometric patterns. The mosaic begins again immediately to the north of the intersection. The mosaic is fragmentary and no inscriptions survive but on analogy with such mosaics in street-porticoes elsewhere it seems likely that the mosaic is not contemporary with the second century building but was put in during the Early Byzantine period at which time a trend

towards private donations of such mosaics is noticeable.[24]

In the east portico various types of mosaic pavement survive in fragmentary condition. There is a mosaic inscription referring to a church in situ immediately behind the columns with relief carving (Pl.18a). To the north there are fragments of a carefully executed ivy tendril pattern (Pl.18b).[25]

For the entire length of the cardo behind both porticoes there is a uniform row of carefully constructed shops (Pls.8a 14b). As can be seen from Pl.14b, the door-frames and lintel are solidly built and trouble has been taken to create a decorative effect with mouldings. An unusual feature is the method of construction for the walls between the doors. For a height of ca. 1 m. the wall consists of a solid block which resembles a balustrade. Above this the walls were filled in with rougher blocks. The balustrade finds a parallel in Phrygia at Hierapolis where such blocks are set between some of the pillars lining the roadway (Pl.92b).

The first intersection in the western colonnade north of the south gate is marked by four large pedestals whose mouldings are the same as those of the pedestals under the columns along the street. On these would have stood piers from which arches would have sprung. A vault probably covered the space between, immediately above the point where the east-west street entered the cardo (Fig. 9). This arrangement at an intersection is the same as that found at Apamea in Syria.

It enables the facade to continue along the line of the cardo without a break since the arch maintains the alignment of the architrave and only the wider space between the vertical elements indicates a change from the regular rhythm.

A recently excavated intersection on the east side of the cardo has revealed a portion of the decorated arch which would have spanned the east-west roadway (Pls. 16b, 17a). The mouldings carried around the arch are the same as those found on the architraves belonging to the street-colonnade and the decorative pilaster carved with the arch is topped by an Ionic capital.

The intersection of the cardo and decumanus maximus is only now in the process of being excavated and it is a very difficult area to interpret because of the multiplicity of periods and structures represented here. On the east side of the cardo where the decumanus enters it, there are two low but massive piers, on each of which stands an elaborately moulded pedestal divided into four sections by means of small niches in each face (Pl. 15a). The plain, square piers aligned with the back wall of the colonnade, of which one is visible in the photograph, suggest that on this side of the city's main intersection the same sort of arrangement exists as that occurring in simpler form to the south. Arches would have been thrown from pier to pier and a vaulted passageway provided over the east-west roadway. The particularly heavy piers at the front facing the cardo must have been designed

to carry a greater weight than just a simple arch over the decumanus. Mansel[26] found part of an inscription and architectural remains for an attic above the arch. The inscription records the arch's dedication to Apollo and Artemis by two local citizens. No date is recorded in the inscription although Mansel dates it generally on letter style to the first half or mid-second century (Pl.17b-the massive blocks from the inscription are in the centre foreground).

The water-channel in the centre of the cardo passes right through the intersection but under the continuation of the pavement of the decumanus. There is a building constructed over it on the south side of the intersection (Pl.16a). This structure would have formed the visual focal point for the street as it leads north to the intersection. The remains of the structure are confusing but a possibility suggested by the excavators is that it formed a small temple.[27] There are two main elements in the structure. On the south side are four columns placed on the corners of a square. They stand in the water basin itself. Immediately to the north is the square element built of coursed masonry set over the channel which is vaulted over at this point. On the top in the centre there is a low square base with moulded sides (Pl.15b). There were four steps providing access to the top of the platform from the west. It is possible that this structure may well be much later than the construction of the actual street but the fact that Mansel claims that Byzantine remains were removed

from the intersection of the cardo and decumanus without even being drawn up and planned implies that to the excavators at least, this structure seemed to be earlier than the Early Byzantine period.[28] More careful excavation would be required to determine exactly both the date and function of the building. It does seem certain that the podium and columns did relate to the water-channel when it was still functioning since the latter was carefully vaulted over so that the flow of water would not be impeded by the construction above. This must have happened before the Early Byzantine period since a small church did cut through the channel at that time, indicating that it was no longer in use.

New excavations along the margin of the cardo have brought to light an unusual amenity. Stone benches with decorative carved legs are placed at intersections. They are backless but utilize the pier behind to provide a back rest for the user.(Pl.19a).

In the Severan period new construction of public areas took place to the south. An irregular courtyard was developed outside the Hellenistic covered gateway and decorative structures such as a nymphaeum were added to the west side while a continuous portico which was, in effect, the continuation of the colonnade on the east side of the cardo, defined the other side (Pl. 19b and Fig. 7[29]). This was not so much a continuation of the cardo as a road-

way but rather the creation of an area approximating a modern Italian largo. The pressure of large crowds wishing to enjoy nearby amenities would require an area broader than that provided by the roadway itself.

The principal decumanus is much less well-preserved and cleared than the cardo. The section to the west of the cardo, discussed above in connection with the water-channel, has remains above ground only on the north side of the roadway (Pl.10b). Interesting for the chronological relationship between the installations on the cardo and decumanus are the fragments from a Corinthian capital to be found lying along the line of the latter. A most important change has taken place from the Ionic order of the cardo (Pl. 20c). The details of the fine limestone capitals are interesting for the light they throw on the date for the work here. Particularly to be noted are the stylization and patterned effect of the acanthus leaves of the lower row. All the tips of the folioles join to create a vertical row of geometrical voids. The style of the leaves is spikey Asiatic; the closest parallel for such capitals comes from Perge itself in the Corinthian order used for the portico on the east side of the Severan largo south of the second century development (Pl. 20b). The use of the same type of Corinthian capital in both areas suggests that the colonnading of the decumanus

formed part of the major Severan building program which was enlarging upon and completing the projects begun in the Hadrianic period.

Other details visible along the western section of the decumanus are monolithic granite columns and a line of shop doors in what would have been the back wall of the colonnade. The shops were built in the same massive style as those on the cardo, with moulded door-jambs. They were interrupted at least once for public buildings from an earlier period which encroached on the line of the roadway (Plan 39). This palaestra, constructed by a local family and dedicated to Nero, continued to maintain its position throughout the Roman period.[30]

East of the cardo the water-channel on the decumanus provided an obstacle to the implementation of a portico on the north side (Pl.11a). Despite the awkwardness of pedestals for columns abutting directly against the side wall of the channel, the northern colonnade was installed. Because of the narrowness of the roadway itself, only ca. 4 - 5 m., and the presence of the water-channel, the width of the northern portico had to be curtailed. It is only ca. 3 m. between the columns and the back wall. A similarly small portico stood on the south side of the roadway. A portion immediately adjacent to the intersection with the cardo has been cleared (Pl.20a). The order here is the same style of Corinthian as was found to the west of the cardo, making it likely

that the decumanus was lined with colonnades for its entire length as the result of one scheme in the Severan period.

When the work was completed, the lower town of Perge was very clearly defined in a visually striking way by a cross-plan. The necessary order of construction with embellishments beginning in the Hadrianic period at the south end of the street and the internal stylistic evidence of the porticoes themselves point to a date in the Antonine period for the cardo's colonnades. The Antonine period is quite early for the appearance of a completely planned and enclosed street. Its implementation and its visual appearance at Perge seem to owe much to the influence of the more centrally placed Pergamon. A Severan completion for the over-all embellishment of the decumanus is not surprising since the second half of the second century saw a general acceptance of the idea of street-enclosure.

Diocaesareia[31] (Plan 40)

The Roman city of Diocaesareia (the modern Uzuncaburç) occupied an inland site located approximately 25 km. north of Silifke (the ancient Seleuceia-on-the-Kalykadnos) situated on the coast in Cilicia Pedias. It stands in the pine-forested highlands of the southern Taurus mountains and with Olba forms a pair of apparently thriving cities throughout the Roman and Early Byzantine periods. On both sites there are

extensive remains of monumental buildings dating from these centuries.

Urban planning at Diocaesareia cannot have had a long pre-Roman history since evidence from all sources indicates that in the Classical and Hellenistic periods only religious functions were served by the buildings here. The temple of Zeus Olbios and some subsidiary buildings are known to have existed in the Hellenistic period[32] but the secular settlement at this time was located 4 km. to the east at Olba. The imposition of a network of streets and the addition of civic buildings and private houses began some time in the first century when the former religious site became an independent Roman foundation with the name Diocaesareia. The exact date at which this foundation occurred is disputed but it must have taken place by the reign of Vespasian since autonomous coinage bearing the legend DIOKAICAREWN appears at this time.[33]

The most important thoroughfare was the decumanus traversing almost the entire length of the city. It is the continuation within the walls of the highway from Seleuceia. The street terminated at its western end not at a gate in the walls but at the facade of the temple of Tyche, a structure of the Corinthian order built presumably in the first century (Pl. 21b).[34] An inscription from the architrave records its dedication but does not give a date for the construction.[35]

On stylistic grounds, the capitals do appear to date the building to the early Roman period (Pl.22a). The softly rounded contours of the acanthus leaves and their fleshy folioles pierced with large voids on the axes are related to western types and make the capitals very unusual in this geographical area.

The placement of the temple of Tyche in this quarter of the city was probably governed by the presence of the older temple of Zeus in its large temenos just to the east of the junction of the decumanus and cardo. The structure must have brought the decumanus to an end as an effective thoroughfare though it could have continued in a westerly direction beyond the temple. The axial arrangement of temple and roadway imparts to the decumanus a secondary function as a sacra via leading as it does directly to an important religious edifice, but its primary role was that of a traffic artery serving the important public buildings within the walls. The theatre and a monumental nymphaeum are located beside it as well as the unidentifiable remains of several other large structures. The temenos wall of the temple of Zeus defines its south side for a distance of about 100 metres.

Throughout the Roman period the decumanus underwent architectural embellishment until its entire length was defined by structures along its edges and decorated with visually striking buildings such as a gate across its width.

One interesting feature about this street gives to it an important place in the history of the continuous development of street-management. The individual elements of the porticoes on it are monumental in their proportions and materials and the over-all effect of the street would have been one of grandeur, but it is also immediately apparent that the porticoes are very disparate in style and size. The street appears to have been decorated in the accumulative fashion of Apamea and Palmyra in Syria. The final appearance would have approximated that found in these Syrian cities rather than the more haphazard and attenuated Italic versions noted at North African cities such as Tipasa.

The street is best studied starting at the temple of Tyche at its western end (Pl.21a). The first section extended from the facade of the temple to the intersection of the decumanus with the cardo, a distance of approximately 20 m. The remains here are not well preserved but as can be seen in Pl.22b, some of the architectural members from the order survive. The unfluted monolithic granite shafts are small, having a lower diameter of only ca. 0.45 m. The intercolumniation was only 2.25- 2.30 m. The columns were set immediately on the stylobate. The bottom of the column shaft was carved with a projecting torus moulding beneath a fillet and this combination was probably to be an inexpensive substitute for a separate base (Fig.10). Traces of the colonnade on the south side are quite clear but it is im-

possible to ascertain without excavation whether the north side was similarly embellished. No small capitals of a correct size for this order were found.

The intersection with the cardo marks the end of this phase of the street. To the east of the intersection a portico of much larger dimensions was placed on the north side. It provided enclosure on this side to complement the wall of the Zeus-temenos already set along the southern edge of the roadway (Pl.23b). The details in this sector are very well preserved and it should be noted that the dimensions are unusually large for a street-side portico. The intercolumniation is 3.05 m. and the portico has a width of 8.80 m. from the centre of the column base to the back wall. The columns have a lower diameter of 0.91 m. The large size of the portico is not matched by the width of the roadway itself since there is only 10.87 m. between the column base and the front face of the temenos wall. This portico begins with a square pier at the intersection and there are twelve bases extant in situ. Beyond there is a blank area for approximately 50 m. until the remains of the nymphaeum set on the line of this portico, implying that the same building line was being maintained all along the northern side of the street.

The independence of the various porticoes along the street is emphasized by the large square pier which stands

on the north-east corner of the intersection of cardo and decumanus (Pl. 21b). It is not matched by a similar construction on any of the other corners and, therefore, did not serve to carry an arch across the roadway. Instead it clearly marked the beginning of the large portico as a separate entity. The large blocks used for it are of coarse-grained limestone.

The elements from the order of the street are made from less costly materials than are usually employed in street-architecture. Coarse-grained white limestone is used for the Attic-Ionic bases. These bases have two unusual features: the double fascia above the upper torus and the lack of a plinth between the bases and the stylobate (Fig.11 and Pl.23a). The capitals, too, are carved in limestone and the difficulties of working such material may have contributed to the choice of smooth leaf Corinthian as the style (Pl.24a-c) although it is a type common in eastern Cilicia and Syria, carved in various stones.[36] They are all carved on two blocks of stone having a combined height of ca. 1.00 m. The lower block is comprised of the two rows of leaves which entirely cover its surface. The leaves are large, oval and very broad with a plain surface interrupted only by a narrow central rib depicted by means of two parallel incisions for the entire height. A large piece at the top of each leaf falls forward. This portion appears very thick and heavy since it

is rendered in high relief. The leaves of the lower row are set very close together but, although this part of the decoration appears to be continuous, the leaves are, in fact, separated by the central rib of the leaves of the upper row. Except for the central rib, only the top half of the leaves of the upper row is depicted. They too have a large piece at the top falling forward. These projecting curving surfaces break up what would otherwise be a very monotonous and smooth area.

The upper piece from the capital is carved with the remaining Corinthian elements: calices,[37] helices and volutes. Over one-half of the total height is taken up by the two calices carved in very high relief but having no modelling except for two parallel incised lines on each. These lines follow and thus emphasize the shape of the calix and break up its smooth surface. The calix takes the form of a tall cup since the inner and outer leaves are completely fused along their vertical joining. At the top of the calix the leaves open out and the curve of their upper edges compliments the curving lines of the helices and volutes which are squeezed into a very small space at the top of the kalathos and hence, lie horizontally rather than rising vertically. Both elements are atrophied and lacking in any appearance of vigour or strength since they are carved in low relief. Their spirals are tiny and open and the ribbon-like stems lie flat against the kalathos.

It is noteworthy that the stems of the helices and volutes join at a point actually above the top of the calices so that there is a small space between the two elements. Hence, the calices and stems have become merely decorative forms depicted for their own sakes rather than as integral parts of a naturalistic floral arrangement in which the stems would grow directly out of the calices. The individual components are not dependent on one another for their existence.

The abacus and kalathos are not distinctly separate entities because the four faces of the abacus are in the same plane as the surface of the kalathos. A plain, narrow projecting moulding indicates the transition from one to the other. In place of a central fleuron, or the round boss more common on smooth leaf capitals, there is a large rectangular projection.

The capitals from this portico lack all delicacy and naturalism. The emphasis in the leafy zone is on heaviness and size due to the broad, smooth leaves which cover the kalathos entirely. In the upper portion the calices continue this motif of strength and solidity but the helices and volutes provide a contrast since they are the vestigial remains of and a concession to the traditional elements on Corinthian. They, therefore, play a very minor role in the over-all scheme of decoration.

It has been stated that these capitals are roughly worked

and unfinished.[38] That we are dealing, however, with capitals intended to take this form is certain from the fact that the surface on all the elements making up the capitals is finely smoothed and the edges of the leaves are carefully finished. The leaves and calices have all been given a central rib as decoration.

In the absence of relevant epigraphic evidence for this portico, it is necessary to say something about the dating of the capitals on the basis of their style. Dating smooth leaf capitals is even more difficult than normal Corinthian since there are few details to serve as criteria and evidence for change. The positioning of the elements, the form taken by the helices and volutes and the stage in the development towards stylization, low relief and loss of clear articulation for the structural parts can still, however, provide clues for the approximate period in which the capital was carved.

Although the carving of this type of leaf on both Corinthian and Composite capitals begins at least as early as the late Hellenistic period, parallels for the structural layout and the details of the examples from Diocaesareia are not found until much later. A capital such as the one from the Forum of Trajan[39] is beginning to get closer to the style exhibited by the ones from Diocaesareia but that it is still earlier is obvious from the fact that the caules are clearly

visible between the leaves of the upper row, the helices and volutes occupy more space at the top of the bell and are positioned so that the stems of both achieve a strong downward turn before they join. They are carefully executed and clearly depicted as growing out of the calix. The volutes stand entirely free of the bell and the helices are carved in such high relief that they are almost in the round. The forms of the kalathos and abacus are clearly differentiated in the Trajanic example and the capital has a much greater plastic quality since the leaves are all completely independent of one another and carved in very high relief.

To find smooth leaf capitals which exhibit stylistic characteristics closer to those on the capitals in question, one must look to the early Christian period.[40] The best parallel for the style among the capitals from Salona is that from the Cemetery Church at Manastirine which dates to ca. A.D. 400 or possibly slightly earlier.[41] The broad leaves, oval in shape and narrowing toward the top,are the same on both capitals. The Manastirine example differs only in the leaves of the upper row which are as tall as those of the lower with the result that the leaf zone extends much higher on the bell. Other elements such as the attenuated helices and volutes and the knob on the abacus are the same on both. On the examples from Diocaesareia there is a

slightly greater attempt to achieve realism since a large piece at the top of each leaf falls forward thus creating movement and areas of light and shade on the kalathos. Most of the leaf on the example from Manastirine, although in relief, is flat against the kalathos. Only a very small portion at the top is entirely detached from the bell so that it falls forward. In addition, the calices of the capitals from the street are embellished with grooves which emphasize the shape and serve to relieve the monotony of the smooth surfaces. The move toward lower relief and flatter planes on the capital from Manastirine suggests that this example is later than the group from Diocaesareia.

A smooth leaf capital of the fourth century from Apamea[42] in Syria exhibits a somewhat cruder rendering of the leaves and it has lost the sense of balance between the various elements that is still to be found on the examples from Diocaesareia. Severan capitals from a basilica at Volubilis[43] appear much closer in style and lay-out. Such comparisons can do no more than situate the capitals from the street most likely in the third to fourth century and it is necessary to study them in conjunction with other elements of architectural decor from the portico.

The most visually outstanding feature is the frieze from the entablature (Pls. 25a-c , 26a-b and Fig. 12) of which five blocks survive. Each is pulvinated and carved with

a peopled scroll above which is a plain fascia, a cyma with egg-and-dart and a dentil course. On four blocks the animals face to the right and on one to the left. It is possible that the direction changed at the mid-point of the portico or the frieze may have changed direction on the ends of the building.

The form on the frieze is an adaptation of the medallion-scroll in which the two stems forming the medallions are not continuous for the length of the scroll but come to an end in a mass of foliage or in the actual representation of the animal head.[44] Two new stems then form the next medallion. The animal busts form an integral part of the scroll since they are not depicted as isolated within the encircling vines but as growing out of the stems. The neck emerges from a calyx of petals or leaves in each case. Types of animals preserved include a boar, sheep, mountain goat, donkey, bull, lion, a large dog apparently of mastiff type and a few unidentifiable creatures.

The stone used for the frieze is either fine-grained limestone or a marble of poor quality and unknown source. The carving and style of the frieze exhibit marked characteristics. The over-all effect is very crowded and busy with the entire surface covered with design. There is a strong emphasis on the curvilinear in the twisted patterns of the leaves and stalks. The relief is very high and the various planes are utilized to create strong contrasts of light and

shade. Undercutting frees the edges of the leaves entirely. An extensive use of the drill creates additional patterns on the surface of each element of the scroll, thus contributing to the busy effect, and rosettes fill empty spaces between the medallions. The acanthus leaves belong to the tall oval type with softly rounded, feathered edges. The forms of the animals are solid and muscular, displaying a vigorous realism. Despite the skill lavished by the artists on the individual components, the general effect of the frieze is somewhat dry and hard.

Peopled scrolls enjoyed particular popularity in the Augustan and Antonine-Severan periods and it is immediately apparent that the frieze from Diocaesareia is much more likely to belong to the latter. Comparisons can be made with the architectural decor of the Severan forum at Lepcis Magna.[45] Especially to be noted are the details of the foreparts of animals emerging from a floral calyx with petals turned back which are found on the pilasters of the basilica. Geographically closer is the frieze block from a small Roman temple at Comana Cappadocia.[46] It, too, is carved with a scroll having the front of an animal, in this case a boar, emerging from a large flower calyx with turned back petals. The building is not dated by an inscription but the authors assign the architectural decor to the second - third century on the basis of style. Another close parallel is published from the Black Sea region but it has no firm provenance and

hence, no date.[47] This peopled scroll is carved in the same deeply cut, slightly stiff style and consists of medallions in the centre of which the foreparts of animals emerge from leafy calyxes. Comparable pieces can also be found at Samaria-Sebaste from the early third century[48] and at Perge from the theatre, dated unnecessarily early by de Ferraro who wants to ascribe the building, for no apparent reason, to the generosity of Plancia Magna.[49] All the architectural elements belong much more comfortably in the Antonine period at the earliest. Two examples from Palmyra and Parma, dated to the Antonine period, have a frieze carved with a scroll and complete animal figures.[50]

From the foregoing list it is apparent that a close dating of peopled scrolls on the basis of style is not really possible. The frieze from Diocaesareia can be assigned generally to the Antonine-Severan period and to a type which was particularly popular in eastern Asia Minor and Syria, but any more specific attribution of source or date cannot be made.

The cornice blocks (Pls. 26c, 27a-d and Fig. 13) have the same visual impact as the frieze. Although the surface is entirely covered with carved mouldings, the effect is dry and linear rather than lively or florid. This is the result of the broad, flat planes emphasized in each of the courses and the wide spacing of each motif within the various designs. For example, on the egg-and-dart the sheaths are

set completely apart from the ova they surround and the pattern on the lesbian cyma stresses the horizontal spread and geometric appearance of the individual elements. The stylized manes of the lions' heads, the unnatural acanthus leaves on the modillions and the alternating palmettes on the sima contribute to the over-all rigidity. A glance at the photographs shows that the various blocks must have been carved by different hands since there is a lack of uniformity in depth of carving, techniques and details. They are, however, all governed by an artistic conception that emphasized general decorative effect and completely carved surfaces over fine detail or naturalistic individual elements. This approach to architectural decor belongs generally to the eastern part of the empire and can be paralleled on sites such as Gerasa, Palmyra and Baalbek.[51] A very similar cornice having some details such as the egg-and-dart identical to those at Diocaesareia, comes from the Severan basilica in the agora at Smyrna.[52]

Without any epigraphic evidence for the date of construction, it is difficult to assign an absolute date to the large portico on the decumanus. On stylistic grounds the various elements making up its order belong to the later second - third century. Monumental building at Diocaesareia was certainly going on in this period. An inscription from the proscenium of the theatre dates it to the reign of Marcus Aurelius and Lucius Verus in A.D. 164-165 and an inscription in

honour of Septimius Severus and family is found on an aqueduct.[53] The colonnade along this section of the decumanus belongs to the period when street-architecture was already well established.

Approximately 80 m. east of the remains of the street-side portico is the well-preserved nymphaeum set on exactly the same line as the colonnade. The structures between have been completely obliterated above ground. The lay-out of the nymphaeum is simple with a small apsed area containing a basin in front preceded by a screen of five or six columns (Pl. 28a). Remains of the smaller order from the screen lie in profusion in the area. The carving on the well-preserved entablature block (Pl. 28b and Fig. 14) suggests that the nymphaeum too is a structure of the Antonine-Severan period. The very elongated bead-and-reel and the widely spaced egg-and-dart emphasizing the individual elements at the expense of any natural grouping of the ova and surrounding sheaths probably is an indication of a later date within the general period. One idiosyncratic detail connects the carving of the entablature block with the workmanship of the Ionic capitals on the colonnaded street at Perge (Pl.13a). In the egg-and-dart on both pieces, the ova are joined to the sheath beneath them by a small vertical bridge left in the stone. The building of the nymphaeum might be connected with the Severan building or reconstruction of the aqueduct mentioned above. A new or improved supply of water is a logical reason for the

addition of a nymphaeum to the architecture of a city. Its plan, with a screen of columns,and its placement indicate that it was very much intended as an item of decoration for the main street as well as being a functional structure.

It is likely that porticoes flanked the nymphaeum to east and west, creating a continuous vista along the north side of the street. On the south side of the decumanus there is evidence that colonnades did exist and these would have complimented porticoes on the north side. The architectural pieces found in the area between the east end of the temenos wall and the intersection marked by the decorative gate to be discussed below reveal that the order of this portico was much smaller than that found to the west on the north side, but the same style of smooth leaf Corinthian was employed (Pl.28c), no doubt to ensure a certain amount of visual unity along the street. The height of the capital is 0.50 m. and its lower diameter is 0.29 m. Like its large counterpart it is carved from grey-white coarse-grained limestone.

Stylistically the capitals are very similar. Both have broad, oval leaves with a vertical central vein, large caulixes whose curving shape is emphasized by two parallel grooves and a kalathos almost entirely covered by the various elements in the design. Where they differ is in the rendering of the helices and volutes which, on the smaller example, are allowed more space so that their stems are able to curve downwards

and to grow directly out of the calixes. The entire conception is so alike in both, however, that it is unlikely that any large chronological difference could be postulated.

The smallness of the order and the fact that a colonnade did line the southern side of the roadway is also indicated by the console set three-quarters of the way up the southwestern column of the transverse gate (Pls.29b,30b). Its top surface must have carried the ends of architrave blocks of the street-colonnade. The console would have carried the ends of the two architrave blocks set on columns which stood on either side and a little to the south of the gate.[54] This console is smaller than the consoles for statues set lower on the columns. The arrangement here above the level of the architrave is more difficult to ascertain. The Corinthian capital on the column of the gate would interfere with the frieze and cornice of the street-portico. It is likely that these elements did not exist at this point. Since the southernmost columns of the gate stand almost on the line that marks the edge of the roadway it is likely that when the gate was set into pre-existing conditions, alterations would have to be made to structures already in place. It is interesting to note that the capital on the column with the console in question is smaller than the other capitals on the gate (Pl.30b). The result is a taller column shaft providing more unencumbered space to take the element resting on the console. Such modifications built into the gate suggest that it was later than

any street-side porticoes in this section of the decumanus.

The gate-building (Fig.15) consists of two rows of six columns, each set across the decumanus. Six columns are postulated because there is an arch clearly indicated over the central intercolumniation (Pl.31a).[55] The intercolumniation for the standing columns is 3.15 m. The gate's lay-out can be compared to the Harbour Gate at Miletus which consists of two rows of Ionic columns[56] and to the Roman portico behind the Praetorian Gate at the entrance to the Diocletianic Camp at Palmyra.[57]

The purpose of this gateway must have been ornamental, intended to break the vista looking east along the decumanus and to compliment the much earlier row of Corinthian columns from the temple of Tyche which formed the visual focus at the west end of the street. The gate does stand at an intersection in the modern village of Uzuncaburç but whether it stood at an ancient intersection is less clear. The two rows of columns are 7.30 m. apart which is definitely wide enough to stand on either side of a north-south roadway but the presence of an architrave from a street-side portico on the decumanus indicated by the console on the gate-column argues against the possibility. If, however, the console were carrying only the end of one architrave block coming from a street-side portico leading westwards from the gateway, then a Roman roadway here would seem more plausible. It is possible, too,

that the console was intended to carry the end of an architrave from a portico approaching the gateway from the south. The gate across the decumanus would then be a continuation of porticoes lining a north-south roadway. Excavation in this area could well clarify this point.

It is apparent that different arrangements existed along the decumanus to the east and west of the gateway. To the west it seems certain that the portico belonging to the roadway was aligned with or stood just to the south of the gateway. Not only is there the console for the portico's architrave, but there are also consoles for statues at a lower level on all the extant columns of the western row (Pl.29b). They face westwards and presuppose an unencumbered view of all the columns. On the east side, however, it appears that the roadway was narrower and was, in fact, encroached upon by a portico on the south side which required adjustments in the gateway when it was put in (Fig. 15). No traces of the columns of a street-side portico indicated on the plan by Keil and Wilhelm exist any longer. There still are, however, visible proofs that the original plan was correct. In the first place there is no console for a statue on the relevant column of the gate, indicating that at one time the half-column of the portico did indeed abut against its shaft. Even more telling is the lay-out of the Corinthian capital belonging to this column (Pl.30a). It is clear on

the photograph that the southern face of the capital was left uncarved presumably to accommodate whatever element from the street's portico stood at this level. That the same situation existed on the north side of the decumanus at this point is purely conjectural on the part of Keil and Wilhelm. Since the arrangements along the street differed so much it is not necessary to assume that there would have been identical colonnades on both sides at this point.

As is apparent from the entablature blocks in situ, the gate bore no dedicatory inscription nor are there any inscriptions extant on the consoles still in place on the columns. The consoles are worked in one piece with a low drum which is inserted into the column and hence, are contemporary with the construction of the gate. Unfortunately the one inscription recorded at the end of the last century as being on a console of the gate contains no clue as to its date.[58] It names a local citizen, Amyntas, who must have been a benefactor of the city since he is given honorary titles and a statue. A second inscription on a console also honouring local citizens, was found near the gate by Bent and Hicks but it, too, is undated.[59] These consoles were lost by the time of the German expedition of Keil and Wilhelm who did not see these stones.

The only clues for the date of construction are the relative building periods indicated by the modifications to the columns of the gate. As we have seen, these indicate a

date after the installation of the street-colonnades, but since they are not extant at this point on the decumanus it is impossible to make any absolute judgments. All the pieces of architectural decor from the various street-porticoes appear to be generally Antonine-Severan, so it is probable that the gate was built in the Severan period or later. One piece of evidence was pointed out and subsequently rejected by Keil and Wilhelm.[60] A coin of Otacilia, wife of Philip the Arab, depicts on the reverse an arched gate with consoles bearing statues set halfway up and facing inwards.[61] The fact that the consoles are set on the inside of the columns is not a point against its being the ornamental gate since this placement would simply be the die maker's device to indicate the consoles which would be impossible to depict against the shaft facing outwards in their correct position. The presentation of the gate with only two columns joined by an arch could be a convention governed by the restricted space available. Such short-hand methods make it difficult sometimes to identify with certainty the building intended.

It is equally likely that this coin refers to the three-arched city-gate (Pl.32c) at the north end of the cardo since all the elements can as easily be applied to it. Hence a terminus ante quem from the coin for the ornamental gate is not certain. Keil and Wilhelm accepted the coin as depicting the gate on the decumanus but rejected any connection between the date of the coin and the date of building because the

architectural details and plan seemed to them to be late first century.[62] They were probably influenced in part to make such a conclusion by the assertion by an earlier traveller, Wilhelm, that the street was colonnaded in the Tiberian period because a console mentioning that emperor was found in the street.[63]

It is apparent after looking at the architecture surviving along the street, that there is nothing of so early a date. Nor can the decor of the gateway be as early as the first century. The Corinthian capitals from the gate are definitely late and belong to a period in which stylization, dry linear patterns over the surface and atrophied elements were the norm (Pl.31 a-d). The two rows of acanthus have very little modelling or detail on them to create a naturalistic effect of fleshy leaves. Instead the repeated jagged outline and the piece falling forward at the top of each create a pattern over the lower half of the kalathos. The lower portion of the acanthus calyx has been simplified to a plain cup-shaped vessel with no attempt at depicting an inner and outer leaf. Approximately half way along its height, a large oval void or smaller geometric voids appear to mark the point between the inner and outer leaves of the calyx. The inner leaf is no longer naturalistic but is rendered with stylized lines to emphasize its shape. The acanthus calyx rises to a point about four-fifths of the way up the bell with the result that only a very small space at the top is left for the heli-

ces and volutes. These are very small and attenuated and have lost all vigour. Both are flat against the bell and have thin, plain stems and small spirals. They appear to be merely concessions to the traditional elements of normal Corinthian. The transition between a cylindrical kalathos and rectangular abacus is not clearly differentiated. The fleuron has degenerated to a rather shapeless mass resting on the abacus. The abacus is merely a thin slab, slightly concave and divided into two panels by a groove.

Heilmeyer[64] correctly sees an artistic connection between the style of the Corinthian capitals at Diocaesareia and Syrian examples but he arbitrarily assigns everything here to the second century and wrongly identifies capitals from the gate as belonging to the temple of Tyche.[65] It is more likely that the capitals, given their lay-out and dry unrealistic treatment, belong to a period later than Heilmeyer indicated in assigning them generally to the second century. They have much more in common with examples from Palmyra belonging to the first half of the third century[66] than with capitals from the second century.

The decorative elements on the entablature are also third rather than second century forms (Pl.31). The very elongated geometric bead-and-reel, the widely spaced egg-and-dart with contrasting light and dark areas and an emphasis on the patterns formed by the dart joined on either side to the sheath, and the stylized,linear lesbian cyma all belong

to the late Roman conception of these forms.[67]

To the east of the gateway, the decumanus was embellished with colonnades but the surviving details are scanty. The gateway's lay-out, as we have seen, indicates that a portico existed on the south side of the street immediately to the east and that this portico was set on a more northerly line than the wall of the Zeus temenos. Nothing remains on the north side immediately adjacent to the gateway. But approximately 40 m. to the east a stylobate for a colonnade is picked up again. It is aligned with the porticoes extant to the west. This stylobate is stepped at intervals to accommodate a sloping ground level. Traces of stylobate can be followed for approximately 86 m. to the east. Fragments of large smooth leaf Corinthian capitals and a plain pulvinated frieze are found in this area. The best preserved block from the order apparently belonging to this area is an architrave having three fasciae separated by an astragal and a lesbian cyma and capped by an astragal, ovolo and a cyma carved with flutes (Pl.32aand Fig.16). The use of short tongue-like flutes as one of a series of crowning mouldings is particularly a Syrian trait common on sites such as Palmyra and Gerasa in the Severan period.[68] None of the architectural pieces lying around the stylobate argues for any substantially different dating for the installations in this sector. It appears to have been embellished in the late second - third century.

On the south side of the street across from the remains

discussed above, there is no trace of a portico. The presence of installations for the theatre right beside the roadway left little room for much building here. The theatre, with its Antonine inscriptions would appear to antedate work on the roadway itself. Like the Zeus temenos to the west, it probably caused an interruption in any continuous facade along the south side. The decumanus can no longer be traced to its eastern termination which would presumably have been a gate in the city-wall.

The cardo, whose intersection with the decumanus was situated just to the west of the temple of Zeus, was likewise embellished with colonnading (Plan 40). To the south of the intersection a portico stood only on the west side. Like its counterpart on the decumanus, it would have faced the wall of the temenos of Zeus. The width of the cardo from the stylobate of the portico to the wall is only 6 m. A short stretch of stylobate with traces of three columns is all that remains.

North of the intersection the cardo leads for approximately 100 m. to the triple-arched gate in the city-wall (Pl. 32c). Here the cardo has a greater width of ca. 12.50 m. between the stylobates of the porticoes on either side. The fragments from the order belonging to these porticoes show that it was smooth leaf Corinthian. Two upper portions are visible in Pl.32c. The shafts are smooth limestone with a lower diameter of 0.87 m. The intercolumniation on the axis is 3.15 m. The order is of comparable dimensions and appearance to that

on the decumanus immediately east of the intersection.

A console said to come from a column of the portico on the cardo names Tiberius as founder and saviour of the city.[69] From this console it has sometimes been inferred that the colonnaded streets at Diocaesareia date from this period.[70] Three other consoles found with the first one all name private citizens and from their nomenclature, which includes Aurelius, they are manifestly later.[71] Tiberius's statue among those decorating a later portico of the cardo is probably to be explained as the result of a desire to keep this honorary dedication either in its original position or in a prominent position in the city. From the wording it would appear that Tiberius was especially revered by the citizens or was closely connected with the city's original growth since he is named κτίστης and σωτῆρ . In such circumstances it would be natural to keep his image on view. Since, however, no architectural remains from the first century are anywhere to be found on the two main streets, it is impossible to connect this dedication with the embellishments to the roadways. All evidence points to such work not beginning until the end of the second century.

Although no great variations in the dating of the various architectural elements along the street can be postulated, it is immediately obvious that the appearance of the decumanus was not the result of a single governing plan which imposed a uniform format along its entire length. Prior installations

such as the temenos of the temple of Zeus Olbios precluded colonnades along the entire length of both streets. The sizes of the porticoes did vary from one sector to another. Important details of decor differed for porticoes whose dimensions were similar. For example, the large portico on the north side of the decumanus had at the west end a striking peopled scroll frieze while to the east a plain pulvinated frieze topped the columns. On the south side of the decumanus between the Zeus temenos and the gateway a portico with smooth leaf Corinthian but of smaller dimensions was installed. A gateway having normal Corinthian capitals was set across this street. The impression left is that individual initiative was applied to the decor of the streets with local citizens paying for porticoes and obviously, to a certain extent, choosing the types which they would donate. Some thought was taken to harmonizing the whole but certainly consistency of the sort apparent at Perge and even at Anazarbus is lacking at Diocaesareia.

The two crossing streets imparted definition to the plan of the city but they were very much the result of applying individual porticoes wherever possible to achieve as much enclosure as possible. The late date for the identifiable work is instructive. Diocaesareia appears to have come to street-management after it had become a standard feature in the cities of the eastern provinces. The city adapted the edges of its cardo and decumanus as much as possible to partake of the pre-

vailing fashion.

Cities that have two or more colonnaded streets which do not meet at right angles cannot achieve as clearly defined and regular a townscape as those with a cross-plan. In the four examples we shall consider, Hierapolis-Castabala, Side, Sardis and Ephesus, given conditions either of topography or earlier lay-out precluded the implementation of a cross-plan despite the fact that extensive work on more than one street was undertaken.

Hierapolis-Castabala[72] (Plan 41)

Hierapolis-Castabala, an inland city of eastern Cilicia, contains the remains of two main colonnaded avenues which run approximately parallel. Only one is well preserved so that a casual glance at the remains might lead to the conclusion that it was a city articulated by one axis set apart from the others by architectural embellishment. J. T. Bent, who visited the site at the end of the last century, conjectured that the columns of the second street might belong to the agora.[73]

Two parallel streets with colonnades form a configuration not known on any other site in the ancient world but the reasons for such planning can easily be ascertained when the topography is considered. The well preserved street is situated on an elongated ridge that marks the highest point of the lower town. The ground drops away very sharply to the

east of this street so that, in reality, the core area with its public buildings is built on two distinct levels. Important structures line both streets but the groupings at each level are isolated from one another by the steep incline between them. Hence, no east-west street could be marked

out as a principal thoroughfare. Since both cardines serviced an area that had claim to be part of the civic centre it was logical to embellish both with colonnades. Within the limits imposed by the terrain, the city appears to have had a regularized system of streets and buildings aligned with these.

The upper cardo can be traced for approximately 450 m. At its southern end it is very well preserved (Pl.33) but the remains become progressively scantier toward the north. There is a rise in the ground level from the south to the north necessitating certain modifications in the construction of the porticoes. At the south end the street terminated probably at a city-gate set in the walls. No remains from such a structure have survived. At the north end, where all trace of porticoes on either side peters out, there is a large open flat area with many large architectural blocks lying around (Pl.40a- the area just visible on the right in the background).

A likely configuration of elements within the townscape would see the agora here. The city-gate - colonnaded street - agora complex is known from sites such as Soli-Pompeiopolis

and Soli on Cyprus. Louis Robert has put forward the suggestion that the sanctuary of Artemis Perasia was situated on this spot.[75] The street would then have had the additional function of a sacra via and would have been comparable to lay-outs such as the one at Petra. Only excavation within this space can solve the problem.

Turning to the lay-out and installation of the architectural elements along this street, it is interesting to note the identical nature of the constructions for its entire length of ca. 450 m. The bases, columns and capitals all appear to have been carved for one architectural project (Pls.33b,35,36)and it seems likely that we are dealing here with an over-all plan governing the modification of the street between two important points, the gate and the agora or religious temenos.

The format and details are not grandiose or costly. The width of the roadway itself is only ca. 11.20 m. putting this street into the category of the functional rather than of the monumental for which a representative example is the Transverse Colonnade at Palmyra. The pavement has disappeared completely. Capitals and bases are carved from a fairly coarse-grained white limestone. The shafts are all made from the same rough conglomerate stone that was used for the shafts along the streets at Anazarbus. Each shaft consists of three to five drums. The shafts at Anazarbus are also made up of drums and it is likely that the soft, friable nature of the

stone prevented the production of monolithic shafts.

The stylobate is constructed from blocks of conglomerate of poor quality which weathers badly. The blocks average ca. 1.08 m. in width and 1.20 - 1.40 m. in length. Since the ground level rises markedly and continuously to the north, the stylobate on the east side is stepped up by 0.14 m. for the first time at the third extant column at the southern end of the street. The new height is maintained for a length of four intercolumniations and then the stylobate is again stepped up by 0.15 m. In each case the stylobate block at a lower level rests on a ledge protruding from the higher block (Pl. 36b for an example). Although the stylobate is not continuously preserved for the entire 450 m., examples of this accommodation to the rise in ground level can be found wherever the stylobate is still in situ.

The order from the street is consistent for the whole length. In size it is to be classed with installations of modest dimensions since the columns have a height of only ca. 5.82 m. and the capitals are 0.95 m, high. The Attic-Ionic bases have an unusual form. The upper torus is very low, allowing for a three-step moulding above it (Pl.36a-b and Fig. 18). The base stands on a plinth having a height of 0.14 m. A small number of parallels for extra mouldings at the top of the base can be found. At Gerasa examples come from the Ionic columns in the oval piazza which date probably to the late first century[76] and from the Antonine bases in the forecourt

of the temple of Artemis.[77] At Patara in Lycia such bases appear in the order of the temple[78] and an attenuated version occurs in the large portico set on the decumanus at Diocaesareia (Pl.23a).

The style of the capitals (Pls. 34,35) is excellent, especially when they are compared, for example, to the linear and stylized examples carved for the gate on the decumanus at Diocaesareia. The capitals from Hierapolis are quite lively and naturalistic, giving the impression of fleshy, soft leaves and a functional calyx. The acanthus leaf is a softened version of the Asia Minor type with the folioles having a serrated edge but not of the exaggerated form found on the capitals from the nymphaeum of Herodes Atticus at Olympia. The tall, oval outline and the shape of the individual components such as voids and folioles within each leaf are very similar to those elements on the capitals from the Antonine temple of Serapis at Ephesus or the Severan basilica at Lepcis Magna.[79] It is obvious that the inspiration for the style of the capitals comes from the western coast of Asia Minor rather than from Syria.

Other elements that relate these capitals to the Ephesian-Pergamene style are the helices with a heavy spiral and a peculiar framing device for the leaves of the lower row. A third plane is carved out between the planes utilized for the lower and upper row of leaves. This third plane is left smooth and its oval shape can be seen around the edge of each acanthus

leaf in the lower row. The earliest examples of this stylistic trait occur in the Library of Celsus at Ephesus whose capitals were carved in the first third of the second century.[80] Thereafter the framing device appears occasionally throughout the second century and seems to enjoy a greater vogue late in the second and in the early third century.[81]

The placement of the elements and the plastic, lively naturalism of the carving suggest that these capitals are not to be dated much later than the Antonine period. All the leafy portions have moved up the bell, leaving only a fairly restricted space at the top for the helices but these are still strong and vigorous in appearance and carved in fairly high relief. Stylization is almost completely lacking, appearing only in the tier of three triangular voids marking the point of contact between the two leaves of the calyx.

Lying on the ground in the area of the twenty-third column from the south end of the street are two large capitals having a squared shape (Pl. 35d,37a) They probably are to be associated with a structure marking a street at right angles to the cardo at this point (Fig. 19). There is a rectangular block still in situ between the columns numbered 22 and 24 on Fig. 19. Only the top half of the capital is extant in each case. The preserved height is 0.49 m. and the lower surface is ca. 0.70 m. across. The capitals are carefully worked on only two faces, suggesting that they were decorative features in a facade of some sort. That they belonged to a structure set at an intersection is made more likely by the appea-

rance immediately across the street of the two square pedestals which will be discussed below. The capitals themselves belong to the florid, exuberant style which marks the Antonine period. Subsidiary decorative elements appear in the form of large flowers on the kalathos below the inner leaves of the calyxes. The spirals of the helices are emphasized by their increased size. The stem of the fleuron is shown as a curving sinuous stalk with small leaves attached instead of as the more normal thin straight line. All of these details find a close parallel in the highly decorative capitals from the Antonine temple of Serapis at Ephesus.[82] Note especially that the very unusual feature of an attenuated running scroll decorating the lower two-thirds of the abacus on the Ephesian example is paralleled on the examples from Hierapolis.

Several pieces from the entablature of the street's order can be seen in debris on either side of the roadway. On the soffit of the architrave a well-carved laurel motif set on either side of a rosette is placed in a rectangular panel (Pl.37c). The architrave is badly worn but three fasciae separated by a heavy bead-and-reel motif can be made out (Pl.37band Fig. 20). The architrave must have been inscribed in at least one place along the roadway since the letter N is still preserved on the extant block. No trace of the frieze blocks has come to light. Two cornice blocks are illustrated in Pl.37d,38a and Fig.21 . The preserved

length of the more complete block is 1.15 m. The depth of the resting surface is 0.70 m. The dentils are crowned by an open, fairly simplified version of the lesbian cyma motif while above the consoles are three mouldings:egg-and-dart, fluting and bead-and-reel. The heavy squarish forms of the latter are paralleled on the entablature blocks from the colonnades of the street at Perge, most likely of Antonine date (Pl. 13b).

Fig. 19 shows a schematic presentation of the extant architecture from the upper main street. Where there are long gaps, the number of columns missing has been calculated on the assumption that an axial intercolumniation of ca. 3.85 m. was maintained throughout.

At the south end the installations on the west side of the roadway are not as well preserved as the colonnade on the east (Pl.33a), but it is evident that there was a continuous portico here as well. Remains of an additional element are found in a depression created by the removal of the stylobate blocks at the level of columns 23 and 24 (Pl.38b and Fig. 22). The two carefully moulded pedestals probably supported piers or columns from an arch or other architectural structure marking a road crossing. It is at this point on the east side of the street that the large squared capitals and rectangular block discussed above are located.

At the place where columns 34 and 35 should be, a massive finely carved doorway has been inserted (Pl.39a). Its

width is 2.60 m. to the outside of the mouldings. Heberdey and Wilhelm surmised that the doorway was later than the colonnades of the street and suggested that it was to be connected with the building of the church which lies close by.[83] The details of the carving on this and on another identical doorway elsewhere on the site (Pl. 39b) bear out the hypothesis of its later date. The traditional classical mouldings have been broken up into their individual components which are of interest only for the geometric patterns they create. The egg-and-dart has been reduced merely to round objects separated by curving lines that represent the sheath. No dart is present. The palmettes are especially noteworthy for their stylization into tiers of three w-shaped lines pointing alternately upwards and downwards. A doorway replacing columns would seem to indicate that by the Early Byzantine period when it was installed, the portico must have been losing its function as a pedestrian thoroughfare, at least in places. The doorway must have opened into a vestibule-arrangement set up by means of cross-walls in the portico.

Towards the northern end of the street approximately at the point where columns 82 to 84 would stand the remains of structures marking a street-intersection are again visible on both sides of the street. The two large square pedestals on the west side are in a direct line with the columns of the street-portico and probably supported piers for an arch spanning a roadway coming in from the west. That this arch would

have been at a higher level than the entablature of the cardo's porticoes seems certain from the remains of a large column drum with a broad console set into it found on the ground beside the southern pedestal (Pl.40b). The console is set into the column just below its top since there is a convex moulding and finished surface just above it. Its position so high up precludes its having carried a bust or statue since this would hardly have been visible from ground level. The console most likely carried the architrave of the lower portico. The pedestals are each made from two blocks moulded at top and bottom. They are 1.40 m. high and 1.20 m. square and stood, 4.45 m. apart, directly on the stylobate. Traces of square bases can be made out on the east side of the street opposite the pedestals.

North of the intersection marked by these arrangements very little remains of the architecture along the street. A few traces of stylobate and a few fragmentary columns in situ are all that is left to indicate that there were colonnades along here. It seems likely that the cardo was intersected at the level of columns 114 to 116 where there are traces of a special structure set on pedestals (Fig. 23). These are badly weathered and partially buried with only 0.70 m. remaining above ground. They are 0.85 m. square and set ca. 10 m. apart on the west side of the street. Nothing can be made out on the east side. The pedestals again may have carried columns for an arch over a side-street.

Beyond this point the remains of the street effectively come to an end although for approximately 100 m. more, fragmentary architectural pieces such as column drums indicate that the street continued to just beyond the theatre. In the large open area found at the end of the cardo there is a great quantity of material in the form of cornices (Pl.41a), pedestals and column drums. These likely represent porticoes surrounding either the agora or the courtyard of the temenos of Artemis.

The pedestals at columns 114 to 116 may have marked a roadway servicing the theatre which lies to the east of the cardo in a natural depression. A portion of this road would have been a stairway in order to accommodate the change in level between the upper cardo and the front of the theatre which is aligned with the lower cardo. Because of the change in level between the eastern and western portions of the city, it is highly unlikely that any of the decumanes could have had porticoes.

The lower cardo was colonnaded at least along part of its length. To the south of the point where the theatre and baths stand on opposite sides of the street, the line of a portico is indicated by six columns in situ (Pl.41c). It should be noted that there has been some re-erection of the architectural elements here since two top drums have been put on top of one another. The two drums with convex moulding at the top are visible in the foreground of Pl.41c.

The axial intercolumniation of the order is 3.56 m., slightly less than for the colonnade of the upper cardo. The lower diameter of the columns is 0.77 m. The drums are carved from the same conglomerate stone which weathers very badly. The bases set on a plinth are carved from white limestone and exhibit the same style as the bases along the upper cardo (Pl.41b) Some fragmentary pieces from Corinthian capitals can be found on the ground in the vicinity but it is difficult to tell if they are identical to the group belonging to the upper cardo.

Within the townscape, the street on which these columns are set would appear to be a main axis running past the front of the theatre (Plan 41). Judging from the position of the theatre and the columns it is likely that this portico stood on the east side of the street. There are six columns extant but there is a large gap between two pairs of three with space for five columns if a regular axial intercolumniation is kept. Hence the colonnade was at least eleven columns in length, but the area around is so completely devoid of remains that it is impossible to tell if the lower cardo was as fully embellished as the upper.

The architectural decor on both is similar enough to indicate that their periods of construction were close in time. No absolute dating evidence exists in the form of building inscriptions for either street. In the lower cardo two bases for statues with dedications belonging to the period

of Valentinian and Valens were found and a third in the same stone and style comes from nearby Osmanie.[84] This one dates to the reign of Gratian. From the upper cardo comes one statue base naming M. Domitius Valerianus, governor of Cilicia ca. A.D. 238-240.[85] These statue bases indicate only that the streets were still functioning as main thoroughfares prominent enough for additional embellishments in the form of dedications having value as propaganda. On stylistic grounds an Antonine date for the construction of the colonnades along the upper cardo, and possibly along the lower, is the most likely. Hierapolis-Castabala is, therefore, to be associated closely with Perge in terms of its planning and monumental building. The implementation of a unifying scheme for the upper cardo is clear and the presence of pedestals at intersections indicates the existence of arches over the intersections in the style of Apamea and Perge. The stylistic connections with the Pergamene-Ephesian school of capital carving for the group of capitals from the street may indicate also the source of inspiration for the planning of the streets since Pergamon had constructed the colonnades for the sacra via leading to the Asklepieion in the Hadrianic-early Antonine period.[86]

[87]
Side (Plan 42)

Side owes its growth and importance from the sixth century B.C. onwards to its excellent location as a port on the

south coast of Turkey in the Roman province of Pamphylia. On the evidence of extant architectural remains, the city was particularly prosperous in the second and third centuries and then again in the Early Byzantine period when it expanded beyond the confines of a fourth century wall which had reduced its size temporarily. Both the Ptolemies and Seleucids included it for a time in their empires in the Hellenistic period but the lay-out of the city appears to owe little to the planning techniques current among the architects and city-planners working in these kingdoms. Especially lacking is the application of the almost ubiquitous Seleucid grid-system for the streets.

The city divides up into three main areas: one is the narrow peninsula and two are situated to the north where the city spreads to the east and west following the coastline.[88] Each of these sectors came to be defined by a main street with colonnading in the Roman period (A, B and C on Plan 42) but it is important to note that only one of these appears to have been straight. It is, however, badly overgrown and covered with sand dunes in its southeastern half so it, too, may have followed a more winding course than appears on the plan. The two main colonnaded streets (A and B) curve with the topography and obviously follow the most logical course across the terrain. It is also clear that although the published accounts discuss "the main colonnaded street," meaning the entire stretch of road from the Hellenistic city-gate

to the temple-complex at the harbour, the situation is not so simple.[89] An evolution comparable to that found on the Grand Colonnade at Palmyra must have occurred. In the Roman period a defining axis or backbone for the city was created by taking two important streets already in existence and welding them more or less into one by the addition of certain architectural unifiers and transitional elements in the form of porticoes and a gate at the most obvious break in the axis. Taken together the roadways provided a thoroughfare of approximately 1 km. in length which completely traversed the city at its widest point.

The first portion (A on Plan 42) represents an old road leading from the Hellenistic gate to the original core of the city where the second century Roman theatre has replaced an older Greek structure. It runs in a NE - SW direction and curves along its length to the west. As well as joining two major public areas (gate and theatre/Roman agora) it serviced a residential area located near the gate, in use from the Hellenistic to the Early Byzantine period.

A central area in the form of a piazza on which were located cisterns, nymphaea, a portico and a monumental arch provided a link between Street A and Street B (Plan 42). Colonnaded Street B also ran in a NE - SW direction, taking its departure from the southwestern corner of the piazza and traversing the peninsula in a diagonal fashion to come to an end before a religious complex consisting of two temples and possibly a forecourt, constructed in the second century. The

location of a major sacred area at one end imparts to Street B the function of a sacra via as well as that of a practical thoroughfare and in this aspect too, Side provides a parallel for Palmyra where the final portion of the Grand Colonnade acts as a processional route to the temple of Bel.

The date of development for the religious area is the second century on the basis of the architectural remains from the two temples. No traces of earlier structures have been found although, given the antiquity of the site itself, it would not be surprising if the area was already sacred before it was endowed with the monumental buildings now standing. When the religious complex was architecturally embellished, the roadway leading up to it probably assumed added importance as a formal processional way and any embellishments to it could well be the result at least in part of the work on the temples. In the absence of any epigraphic evidence for their construction they have been dated on stylistic grounds to the Antonine period.[90] Some of the architectural elements appear to be earlier, being very like pieces executed in the style of the Pergamene-Ephesian school for the piscina of the Harbour Baths at Ephesus which date to the Trajanic period (Pl. 42a,43a).[91] The frieze with Medusa heads (Pl.42b)[92] does, however, appear to be closer in style to Antonine art and the temples could well have been conceived and executed throughout the second two quarters of the second century. The large baths and theatre are also are also as-

signed to the second century[93] and monumental building is known to have continued through the Severan period when a marble courtyard, comparable to the decorative court at Perge,[94] was installed just inside the Hellenistic gateway and a large nymphaeum was constructed just outside the wall in an area that was to be more fully developed in the fifth century.[95] The two-storied facade of the courtyard, decorated with columnar architecture and statues in niches would have provided an impressive sight to close the vista as one proceeded along Street A to the main exit from the city. Unfortunately Side is lacking in dedicatory inscriptions for its buildings and reliance must be made on relative chronologies based on the internal evidence of the structures themselves.

The embellishment of the city's main roads is likely to fall for the most part within this architectural floruit although an analysis of the decor will quickly make apparent the disparate nature of the architecture along the two main streets. Side provides an excellent example of an accumulation of porticoes of various styles and types set along the edges of major streets.

Colonnaded Street C took its point of departure from the same place as Street A and served to connect the southeastern area of the city to the main city-gate. Because of its overgrown state it is difficult to ascertain its exact lay-out or relationship to the surroundings. It most probably was the original main street for this part of the city.

In terms of general considerations of town-planning, it is interesting to note the apparently natural creation of three largos at points of high traffic density (a,b and c on Plan 42 and Fig.24). The three main streets widen out as they approach areas where people and vehicles are likely to congregate. The two just inside the main city-gate are comparable to the more formal arrangement found on the Transverse Colonnade at the Damascus Gate in Palmyra. As Colonnaded Street B approaches the piazza at its northern end it too widens, no doubt to provide more space for crowds entering and leaving the theatre as well as those congregating to the conveniences such as fountains and public lavatory located around the open area.

The extensive nature of the porticoes located throughout the town and the evidence for shops behind most of these indicate a marked decentralization of commercial activities as early as the Roman period. The construction in the second century of an agora of peristyle type also lined with shops beside Colonnaded Street A reflects the amount of business and trade that Side as a busy port-city must have enjoyed. The juxtaposition of a main street and an enclosed agora to provide easy access for the latter has been noted already at sites such as Perge.

The architectural remains from Colonnaded Street A are very diverse. At its northeastern end at the gate the street-

colonnades are very poorly preserved. On the west side nothing is found for approximately 100 m. since the ground level is obviously too low. The area must have been stripped of its buildings for secondary use elsewhere. On the east side, however, the stylobate can be traced almost immediately inside the gate. It is here that the widening of the roadway is noticeable. The stylobate of this first portico is aligned with the square bastion flanking the gate. Lying on and near this stylobate are the remains of two sizes of column (Pl. 43c). The larger order has a lower diameter of 0.49 m. and the plain monolithic shafts are made from fine-grained greyish-yellow mottled limestone. The smaller order consists of the same type of column having a lower diameter of 0.24 m. There may have been a two-story colonnade at this point along Street A. The stylobate is particularly well constructed with foundations in a mixture of roughly squared conglomerate and sandstone blocks of massive size. Since, however, the remains here are very scanty, it is impossible to do more than suggest that the section of roadway marked 1 on Plan 42 may have been lined with a two-story facade which would have provided an imposing sight to anyone entering through the gate. Such colonnades are apparently not common along streets but a parallel does come from Late Antique Antioch in which there were, according to Libanius, two-storied porticoes on either side of the main street.[96] These must have

been part of the Roman reconstructions of the Herodian-Tiberian street.

On the west side of the street there are remains of a portico (2 on Plan 42) situated at the point where the street first narrows to its standard width of 9.50 m. Both spirally fluted columns and plain shafts, each having a lower diameter of 0.49 m., are found on the ground here (Pl.43b). The two-step stylobate is still extant. Each step has a width of 0.50 m. and the rise between them is only 0.07 m. Since both types of column are intermingled on the ground it is possible that the portico here was particularly decorative with the two alternating along the facade. A second possibility would be a wide portico with an interior row of columns. Spirally fluted columns for the colonnades of a street are known elsewhere only at Apamea in Syria.

Found close by the columns is a pulvinated frieze block carved with an acanthus scroll (Pl.45a and Fig. 25). On the bottom there is a cutting 0.06 m. deep for half the width of the block, presumably to provide a firm join with a matching projection which would have been found on the architrave below. The scroll is deeply carved with the relief averaging about 0.025 m. in depth. Stylistically it is notable for its plastic, vigorous quality. The emphasis falls on the thick stalk to form the overall curvilinear pattern. Occasionally the stalk is covered by a narrow leaf, but the general impression is created by the bulk of the stem rather than by pro-

minent vegetation. In the roundels created by the stalk there are small flowers of various types. The mouldings surmounting the frieze are unusual both for their height and the quality of the carving. The tall oval eggs are completely surrounded by the sheath which still maintains its proper relationship with the ova. The bead-and-reel has not yet degenerated into a line of geometric motifs. In style this piece is comparable to Ephesian examples from the lower order of the theatre which is Flavian in date.[97] No absolute dating is possible but a glance at the forms on the frieze-course suggests nothing later than the Hadrianic period for the portico from which it comes.

At 3 on Street A is found architectural decor of the Early Byzantine period. In this area on both sides of the street both the stylobate and back wall of the porticoes are preserved. Bases in situ on the west side of the street have a peculiar form consisting of an upper torus tending to a square profile above a shallow scotia and lower torus (Fig.26). The base finds an almost identical parallel in the fifth century martyrium at Seleuceia Piereia (Fig.27).

Found in the same area are Early Byzantine capitals of the type seen in Pl. 45c . These capitals are of coarse-grained grey-white limestone and are carved with the squat bulky forms associated with late fifth and sixth century work. They are on average 0.36 m. high and have a lower diameter of 0.44 m. A series of similar capitals is found at Anemu-

rium, Cilicia, unfortunately not in a closely dated context.[98] Identical capitals were found in a Justinianic shipwreck[99] and were, therefore, carved probably around A.D. 500. The colonnade as it stands now belongs to the second major floruit on the site which began in the fifth century. It is difficult to say whether a portico stood here prior to the Early Byzantine installation.

Immediately across the road on the east side the colonnade is only 2.5 m. wide (4 on Plan 42). The back wall is solid and well constructed of alternating headers and stretchers in conglomerate stone (Pl.44a-portion visible at left). It is broken by an alley ca. 3 m. wide coming from the east which serviced the habitation area.

On the stylobate here are twenty bases of yet another type carved with a square profile from coarse-grained limestone (Pl.46aand Fig. 28). The base consists of a plinth measuring 0.60 m. a side on which is set a base with two vertical and one angled face. The upper surface is 0.58 m. in diameter. Although these bases look in many ways unfinished with prominent claw marks on the surface and their simple lines they are, in fact, a recognizable type found on a few sites in the eastern Mediterranean. They were used on the colonnaded street at Sagalassos, carved in one piece with a tall pedestal (Pl. 74c). Evidence from a datable context proves that this is a Roman type. Such bases are used in the Hadrianic temple of Serapis at Mons Claudianus in Egypt where they are identified as being possibly of Syrian work-

manship.[100] A related type with a straight-sided moulding above a regular torus is found on a temple in the Hauran dated by an inscription to A.D. 155.[101] Hence, although fragments of capitals belonging to the Early Byzantine type that was found on the west side of the street predominate in the area of these bases, it is not likely that the portico originated in so late a period.

A few columns are preserved in the area of the square-profiled bases (Pl. 47d). They are all greyish-white monolithic limestone shafts with a heavy squared moulding at the base.

Behind this colonnade the back wall with doors leading into shops is very well preserved (Pl.47b). The shop doors average 1.50 m. in width and they are set 2.50 - 3.0 m. apart. The shops in this section were approximately 4.50 m. deep. The portico itself has a width of 4.50 m. but this varies along the length of the roadway from as little as 2.5 m. to as much as 6.8 m. It is clear that the dimensions of the porticoes were adapted to pre-existing conditions on the sides of the road.

Where the road curves to the west (5 on Plan 42) it passes through a habitation area set immediately to the north of the agora on the east side of the street. The houses predate the installations along the edge of the roadway and as a result the rooms behind the porticoes were built to serve both as shops for the street and as transitional access routes

to the houses since some are provided with doors in their rear wall (Fig. 29 and Plan 42 for a general view of the area). The size and shapes of these shops are not uniform nor is the width of the porticoes. The shops are solidly, but not carefully, constructed of broken irregular stones in mortar. More regular stones are visible at the corners (Pl.47b). The traces of plaster still to be seen suggests that these walls would have had a smooth coating to cover the irregularities of the wall's surface. The organization of street, porticoes, shops and houses in this small area is reminiscent of Italic traditions in which commerce and habitation were architecturally closely knit throughout the town.

In the fifth or sixth century when the area between the theatre and the Hellenistic gate was again in use, the portico in front of the houses was given a mosaic floor in the Late Antique-Early Byzantine fashion noted at Antioch, Apamea and neighbouring Perge (Pl.46c). A mosaic inscription recording the floor's dedication survives in part but records no absolute date. The letter-forms and terminology have led Robert and Bean to assign it most probably to the fifth century.[102] At the same time the houses were redecorated in an architectural style typical of the Theodosian era.[103]

The architectural details of the porticoes fronting the houses are varied in style and date. The most important change occurs between the north and south of the narrow alley ser-

vicing the houses. Since the level of the roadway drops down continually to the south from the bend toward the theatre modifications had to be made to accommodate the change of level. North of the alley, the columns stood on the usual Attic-Ionic bases on a low plinth but to the south the portico had columns set on tall hexagonal pedestals that had mouldings at top and bottom (Pl. 47b). On these pedestals were hexagonal plinths above which were regular Attic-Ionic bases. Because of these pedestals the roof could be maintained at the same line in spite of the drop in level. At ground level there is a shallow step down to the level of the alley from the southern portico while a much higher step is required to pass from the alley to the northern portico (Pl. 47b).

Two periods are represented in the elements for the upper section of the order. The same type and size of late fifth-early sixth century Corinthian capital as appears further to the north in the street-porticoes was found here (Pl. 46b). They could have been used in repairs or rebuilding in this section when the mosaic was put in and the entire area so carefully refurbished in the fifth century. Lying nearby is an earlier architrave block that appears to come from the street-portico as well since it is too large to belong to the houses that are the only other structures in the area. This block has a face with two steps separated by a large

bead-and-reel having heavy, squarish forms. On the soffit there is a particularly lush vine with full grape clusters attached carved into an inset panel (Pl.47a). The floral motifs in such panels are usually much more restrained, tending towards one thin stalk and a few leaves. The pedestals and architrave must come from a second-century street-portico which appears to have been repaired and maintained in the Early Byzantine period.

In contrast to the fairly extensive remains on the east side, the architecture on the west side of the roadway consists only of traces of the two-step stylobate for the portico that originally lined the road. The porticoes would have been interrupted by the fifth century bath building which now houses the local museum. Since the entire area beside the baths has been cemented over it is impossible to ascertain what the arrangements originally were here.

On the east side of the street in the section marked 6 on Plan 42, two porticoes are encountered built against the west wall of the peristyle agora. This format of a double row of shops each with colonnade in front, set where agora and roadway are contiguous, has a long history going back, for example, to the Hellenistic period at Priene and the first century at Ephesus on the Marble Road. Since the agora and the roadway do not follow exactly the same alignment the shops and porticoes of the roadway have been adapted to mask this awkward relationship somewhat (Fig.30). The portico situated to the north of the propylon leading in-

to the agora has five shops of varying size and shape set into the triangular space between agora and roadway. The portico itself is wider here - 5.10 m. - than is generally found to the north. The architectural motif of the tall pedestals beneath the columns is continued with octagonal moulded ones, 0.44 m. high, set under the Attic-Ionic bases (Pl.48a-rear. The bases at the front do not belong). The columns still extant have a lower diameter of 0.67 m. and a total height of 4.73 m. The intercolumniation is ca. 2.60 m.

The portico to the south of the propylon and the agora is aligned so the seven shops behind have a regular rectangular outline. The portico itself was narrower, having a width of only 4.10 m. The columns belonging to it also stood on octagonal pedestals. These porticoes, differing in size and orientation, corroborate the impression that this street was embellished with separate entities that very much had to adapt to what lay on either side rather than forming part of a grand scheme applied uniformly along the roadway.

The propylon to the agora interrupts the street-colonnade completely with a forehall entered through a three-arched gate (Fig.30). The propylon was at a lower level than the porticoes to accommodate the agora which is below the level of the street. Hence four stairs lay between it and the north portico and three stairs led up to the south. It would have provided a suitably monumental entrance from the main

thoroughfare.

It is clear that the porticoes on the street in section 6 at least must have formed part of the same building project that saw the construction of the agora. They could have been built afterwards, but certainly not before. The close architectural relation between the propylon and the porticoes suggests though that they were planned with the agora as part of the development in this area.

For the agora there is no epigraphic evidence for the date of building. The Corinthian order from its porticoes is well-preserved[104] and is in many respects similar to the Corinthian order found in other buildings such as the porticoes in Colonnaded Street B. A large body of architectural decor appears to have been carved in a fairly short space of time for a massive building program on the site. The capitals from the agora are probably more empty in the sense that foliage does not cover all of the kalathos. Spaces are left free of decorative details. The lower row of acanthus leaves is widely spaced so that the upper leaves can be indicated for most of their height and take their point of departure from very low on the bell with a very heavy central axis marked out. They resemble several early second century capitals from Pergamon belonging to a type developed locally in the Trajanic period.[105]

The visual terminus for those walking south along the roadway is a decorative monument identified by an inscription

on its architrave as originally dedicated to Vespasian (Pl.48b).[106] It was remodelled as a fountain in the Late Antique period. The excavators are of the opinion that this structure did not originally stand in this spot but that it was moved here in the fourth century when the later city-wall was constructed using the decorative arch beside where it now stands as the main city-gate.[107] Hence the building functions as part of Colonnaded Street A's decor only in its later history. In the Roman period when some, at least, of the porticoes were put in it appears that the looming bulk of the theatre furnished a closing element for this street.

The only evidence for the funding of the work along the street comes from one fragmentary inscription which records the donation of one column with its base and capital by a private citizen.[108] The inscription on the pedestal was not found in situ but it is thought to have come from the street-colonnades. In such a case presumably several citizens joined together to cover the cost of one portico and a natural unit to pay for would be a column. The funding of the work in such a way would make the varied and fragmented impression created by the porticoes along Colonnaded Street A more understandable.

The only subsidiary decoration found in situ on Street A are bases for statues. Imperial figures are known to have stood in it at least in its northern sector at the main city-

gate.[109] Here a base dedicated to Diocletian was discovered. It must be among the latest items set up in this area before the temporary retreat of the city behind its inner wall in the fourth century. Where the statue stood was outside the inhabited area in that period.

The piazza (7 on Plan 42) continued the theme of enclosure by means of porticoes and provided a transitional area between Colonnaded Streets A and B. It served to join the two streets so closely that they could, in fact, be regarded as one thoroughfare passing through the entire city. As a parallel to the arch on the Grand Colonnade at Palmyra, the single arched gate set on the piazza helps somewhat to alleviate the impression of a complete break between the two streets (Pl. 48b-part of the arch with later walling in it). The gate was not at right angles either to the street or to the piazza but stood diagonally across the latter, thus providing a visual focus in the midst of the changing axes.

The date of the original arch is not known. Presumably it dates to the second or early third century when much building of monumental type took place at Side. Inscriptions of the first half of the third century name a group of citizens as τετραπωλεῖται[110] or "citizens of the four-horsed carriage. Since all the inscriptions referring to this landmark are found in the vicinity of the gate, the four-horsed carriage has been interpreted as an imperial quadriga set on top of

the gate. By the time of the inscriptions it would have acquired the status of the most important landmark in the neighbourhood and have given its name to the area.

In the fourth century when the new city wall passed through this area, the arch lost its original monumental form and was reduced from its proper height and width of 11.90 x 8.60 m. to a mere doorway, 4.0 x 2.65 m. Much of the material used to wall up the arch is still in place (Pl. 48b) and it is clear that the new surge of building and prosperity in the fifth century did not include a restoration of the gate to its former outline.

Also found on the piazza are a large rectangular cistern of the Roman period with a marble nymphaeum of facade-type in front built, in the opinion of the excavators, in the later third century. A second very poorly preserved nymphaeum and a short portico on the northern side are also found on the piazza. The piazza located in the very heart of the city was a natural place to situate public amenities. Large crowds must always have been passing through it as they used the main roadways or directed their steps to the agora and theatre.

Colonnaded Street B joins together two important public complexes. From the core of the city at the theatre, it leads to a religious area by the sea. Insofar as they can be recovered, the installation along it differ from those on Colonnaded Street A. They are much more uniform in plan and decor

and appear to be the result of an orderly approach to the embellishment of the street. The portico on the west side at the northern end is very well-preserved (Pl.49a). On a two-step stylobate of limestone blocks, ca. 1.0 x 0.95 m., are set Attic-Ionic bases on plinths. They are all uniformly and carefully carved from white marble. Their total height is 0.38 - 0.40 m. The axial intercolumniation is ca. 2.50 m. The columns are monolithic, smooth, grey granite and have a height of ca. 4.75 m. with a lower diameter of 0.62 m. The height of the Corinthian capitals from the order is 0.67 m. In front of the portico was a covered drain set into the roadway. The portico had a width of 6.70 m. The back wall is still preserved in places, pierced at regular intervals for doorways leading into the shops behind. The walls consist of rubble and brick set in mortar between monolithic stone piers at the corners.

On the east side of the street many of the details appear to have been the same. Two main differences are the open drain, 0.75 m. wide, running along the edge of the stylobate and the pedestals set below the Attic-Ionic bases (Pl.49b). These are square and profiled, having a height of 0.35 m. and they compensated for the lower ground level on the east side of the street. The lifting boss has been left on the front face of each one. This element is probably to be interpreted as the result of a desire for decorative effect rather than as an indication of an unfinished state for the work.

The intercolumniation is slightly less on this side, being only ca. 2.30 m. The total width of the portico is ca. 5.30 m. The columns are the same monolithic, grey granite as appears on the west side and fragments of Corinthian capitals indicate that the order was the same. For most of its preserved length there are shops behind but in the area of the theatre this lay-out was modified to a plain back wall with doorways giving access by means of stairways to the theatre. The wall is more solidly built here, consisting of carefully cut ashlar masonry.

At the northern end the porticoes are ca. 11.60 m. apart but they gradually converge to the south until the roadway reaches its standard width of 9.60 m. This widening must have been designed to create more space at a potential point of pressure. Aesthetics may have entered into the planning as well since the diverging porticoes would have provided a broader view of the north side of the piazza.

Only approximately 150 m. of roadway south of the piazza can be traced with great clarity. Beyond this area the houses of the modern village and overgrowth make it more difficult to see all the details though column drums and traces of stylobate do indicate that the street had colonnades along its entire length (Pl. 50a).

The Corinthian order from the colonnades is in many respects similar to that found on the colonnaded street at Hierapolis-Castabala and dated on stylistic grounds to the Antonine period (Compare Pls. 50b and 34b). Especially to be noted is

the outer shape of the leaves, the marked emphasis on the vertical axis in the lower portion of the leaf and the frame behind each acanthus leaf of the lower row created by an uncarved plane between the leaf and the kalathos. A jagged, toothed contour defines the top edge of this frame. Both capitals have small, ribbon-like helices squeezed into a small space at the top of the bell. A certain amount of stylization appears in the example from Side in the vertical row of geometrical voids created where the leaves of the lower row touch. This conception for the leaves is very close to that found on the capitals from the gate at Mylasa dated by Heilmeyer to approximately the mid-second century.[112] Mansel makes no attempt to date the work in this section of the street, saying only that the style of the elements appears to be homogeneous in the excavated portion.[113]

The lively, plastic quality combined with the full, luxuriant nature of the floral elements suggest that these capitals are not to be dated much later than the Antonine period. The porticoes were probably installed here during the same building program that included the agora and the temples by the sea. This roadway, leading as it does to the area of the temples, would have required an added architectural embellishment when it took on the role of a sacra via. The lack of architectural remains at its southern end makes it impossible to know if the entire 500 m. was treated at the same time. Certainly the northern portion is comparable to

Perge and Hierapolis-Castabala in its homogeneous nature.

Street B was particularly rich in subsidiary decoration in the form of sculpture. At the northern end a statue of Herakles, identified as belonging to the school of Aphrodisian carving,[114] stood in the portico. J. Inan in her new work on the sculpture from Side lists forty-five statues as coming from the colonnaded street.[115] Most important for an analysis of street-architecture is the series of imperial statue bases belonging to Street B.[116] They are mostly reused bases naming emperors of the fourth century. This was a difficult time at Side but it is clear that an attempt was made to keep the imperial house and consequently the idea of the Roman empire highly visible. As an elementary form of propaganda the siting of imperial statues in the public porticoes of a street had been known at least from the time of Tiberius at Antioch. The continuation of the series at Side through the fourth century proves that Street B remained in use as a main thoroughfare into the Late Antique period and the presence of important statues in the porticoes implies that they were still open passages unencumbered by walls and small rooms.

Colonnaded Street C is now completely overgrown in its northern section and covered with sand dunes in the presumed area of its southern end. Only traces of stylobate can be made out here and there and broken column drums still lie in

the brush along its route. The roadway itself was only 9 m. wide putting it into the class of functional thoroughfares. Mansel notes that there were shops behind the porticoes[117] but it is difficult to make these out now.

The road's function within the townscape was to join the main city-gate to the southeastern sector of the city. It ran in a north-south direction but it is impossible to ascertain its original length because of the encroachment of sand. By the Early Byzantine period a large building complex, which appears to have been a basilica, was situated over the line of the eastern portico and possibly over the roadway itself, thus changing its character from a main thoroughfare.

The only inscription recorded as coming from this street is a statue base dedicated to Quirinia Patra, wife of Bryonianus Lollianus, the donor of the Severan nymphaeum outside the city-gate.[118] Since statues to this couple were set up in various parts of the city, it is unlikely that this particular statue base could be connected in any way with the building of the porticoes along the street.

Between the southwestern corner of the agora and a large structure identified as Building M in the reports, there was a colonnade on only one side of the street (D on Plan 42). The portico itself was particularly spacious having a width of ca. 10.0 m. There were shops behind. Its length was only about 100 m. The portico is perhaps not to

be considered so much as going with the street to form an ensemble but as an independent building functioning as a market and supplementing the space available for commerce in the peristyle agora. Building M at its other end has sometimes been identified as another agora, used for state business rather than commerce. The two agoras and the stoa between probably formed one large public complex. Supporting the idea that the colonnade was intended to be a shopping precenct is its added width which would allow room for crowds of shoppers and for temporary stalls in the portico itself.

Leading off to the northwest from the southwestern end of Colonnaded Street A is a short street lined with porticoes (E on Plan 42). The Early Byzantine bath building which now serves as the site museum and the fourth century city-wall both encroach upon the line of the porticoes so the street must have lost its original form by this time.

Only the end of the street adjacent to Colonnaded Street A is well preserved. The order is Corinthian with marble capitals and Attic-Ionic bases set on plinths and grey granite shafts (Pl.50c). The style of the capitals is identical to that on Colonnaded Street B. The embellishment of this street too most likely forms part of the large building program in the Antonine period.

The road was paved with large rectangular blocks of various sizes which were laid in irregular fashion. The roadway, being only 7 m. wide, is among the least spacious streets with

colonnades in the Eastern Mediterranean. The museum's courtyard and various modern structures stand over the area to which this street led. A glance at the plan shows that it could not have been very long even if it had been continued right up to the city-wall. There does not, however, appear to have been a gate in the wall here so the street is more likely to have been intended as an access to some particular building or monument which originally stood at its termination.

Side resembles Syrian sites such as Palmyra, Bostra and Philadelphia in the length and multiplicity of its embellished streets. As in the second two none of the streets at Side is outstanding for its width or the richness of its decor. For the most part, the streets appear to have been functional thoroughfares handling the bulk of the city's traffic. As far as can be determined Side provides examples of both ways that colonnaded streets can be implemented. On Colonnaded Street A the work seems to have proceeded in a cumulative way with stoas of varying size and with differing architectural decor being fitted into the available space between buildings and roadway. Often the portico is very much a part of the structure behind as in the case of the colonnade, shops and houses at the bend in the roadway. Colonnaded Streets B and E are much more obviously the result of considered planning which was attempting to create an architectural ensemble consisting of roadway and flanking struc-

tures. As at Perge this type of planning appears to have taken place in the Antonine period.

Sardis[120] (Plan 43)

At Sardis an excellent example of Late Antique planning is evident. At least two colonnaded streets were included in a more general scheme of development taking place in the western sector of the city in the late fourth and fifth centuries. The area had already been utilized to a certain extent and the most important east-west road laid out on the exact line it was to retain for several hundred years in the Roman period but the main expansion here took place at the later date. The gymnasium which was originally set up before the mid-second century and the synagogue which was first built probably in the first half of the third century are aligned perfectly with the Late Antique-Early Byzantine shops and colonnades, thus providing a terminus ante quem for the street-system. A terminus post quem appears in the monumental staircase having a totally different orientation which is located approximately 3 m. below the level of the colonnade and in the mortared wall beneath one of the shops. Late Hellenistic and early Roman wares were found at the level of this staircase and wall.[121]

A possible reason for reorientating the streets may be found in the opportunities for new directions provided by the massive destruction in the earthquake of A.D. 17. A more

highly organized system which could govern the placement of buildings for years to come could more easily have been implemented after such a disaster. There is no evidence, however, for embellishment along the decumanus or the other roads until the later building phase.[122]

By the time the streets were decorated the planners at Sardis were merely implementing a format that had become standardized and recognized as a treatment for main thoroughfares. The streets formed part of a larger program in the northwestern sector which included a Roman villa, some of the city-wall, a bath building and a large area containing undefined structures in Sector B of Pactolus North.[123] As has been noted above,[124] the inscriptions recording some of the work on the colonnaded streets suggest that the concept of a street with colonnades on either side as one building was by then established so that the construction of the colonnaded streets could well have been conceived in the same terms as the work on, for example, the bath.

The installation on the main east - west street is utilitarian rather than grandiose (Pl. 51a). The roadway is 12.5 m. wide, paved with irregular rows of quite roughly shaped marble or fine limestone as well as with some re-used blocks.[125] The drains are beneath the pavement. Pipes from the shops were found which empty into the main drains.[126] The roadway is designed to facilitate drainage by having its highest point at the centre with a gentle slope away on either side. On

the south side of the street there is a raised sidewalk, 2 m. wide, set between the roadway and the portico. The entire width of the portico on this side could not be cleared because of the presence of the modern paved highway which still preserves the line of the ancient road. A two-step stylobate, pedestals and one column, however, provide proof of the southern portico's existence (Pl. 52a - visible on the right). The presence of the sidewalk outside the portico is paralleled by the scheme on the Lechaion Road at Corinth. As was suggested for that example, the additional sidewalk may reflect a response to the needs of pedestrians who were hindered from making rapid progress in the portico itself by the presence of temporary booths and itinerant vendors plying their trade in the sheltered area.

The northern colonnade is not preceded by a sidewalk (Pl. 51b). It rises on a two-step stylobate above the level of the roadway and is 5 m. wide. The stylobate blocks are large and carefully cut. Traces of mosaic pavement were found all along its excavated length of ca. 200 m. indicating that the Late Antique - Early Byzantine fashion for mosaics in porticoes prevailed here as well.[127] One of the shops was also decorated with a mosaic floor in the same simple black and white geometric style. On the basis of limited stylistic comparisons available, the excavators suggest a date in the first half of the sixth century for the pavement, making it a later addition to the portico.

The most noticeable visual detail about the portico is the lack of uniformity for its elements (Pl.51b). The material found in situ has been re-erected in part and gives an idea of the reused bases, columns and capitals which went into the original structure. To achieve a uniform height for the colonnade, columns having different heights were mounted on bases and pedestals of varying kinds. Ionic capitals predominate but the Corinthian order is also found. The careful workmanship of the pavement and stylobate contrasts with the more make-shift nature of the upper parts. The obviously late date of the pavement containing reused architectural pieces precludes any suggestion of two major building phases. Hence, it can only be assumed that the prime function of the installations in this case was utilitarian and their visual effect was of distinctly secondary importance. Though the street appears to be a fully planned affair it contrasts markedly in the details of its finished appearance with a Roman street of monumental character such as that at Perge.

The shops, on the other hand, appear to have been extremely well and carefully constructed, suggesting that the motivation for the whole project on this street may have been commercial rather than aesthetic. A row containing approximately thirty shops is built against a wall that defines the eastern boundary of the synagogue on the east and the gymnasium complex on the west.[128] They average 4.5 x

3.5 m. in size though there is variation where two shops have been combined into one establishment or where entrances have been arranged from the portico into the buildings to the north. The walls are solidly built with brick courses set into the rubble and mortar (Pl.51b). Various special features such as benches, basins and water pipes were found in them and the small finds of metal and glass were indicative of the sort of commerce that took place.

Several factors suggest that the colonnade and shops were laid out at the end of the fourth or early fifth century. A change appears to have taken place in the use to which this area was put in the Late Antique period. As was often the case at this time the gymnasium lost its original function and when this was no longer primarily a recreation area the commercial zone was installed. From sondages under the floor of shops come coins of the fourth century while in the shops and portico, reflecting the period of use, are coins from the late fourth to the early seventh century. In one shop which has two floors, a hoard of coins of Heraklios was found sealed between them and proving that the shops continued to function until this date. Traces of extensive burning in many of the shops suggest a violent end for this shopping precinct. Since the coin evidence ceases with Heraklios the excavators connect this destruction with the Persian attacks under Chosroes II in

the early seventh century.

Subsequently a phenomenon related to what happened at Antioch and Laodicea during the Arab period took place. A cobbled roadway was built on the ruins of the Late Antique-Early Byzantine road but it was set to the north of the original line and extended up to the front wall of the shops, thus covering the colonnades.

This street has been compared to the installations at Ephesus along the Arkadiane but the two streets have little in common.[129] The Ephesian avenue is a monumental thoroughfare with a large order set on either side and comparable to the more grandiose installations of the Roman period. A more apt comparison for the decumanus at Sardis may be found in Athens where colonnades having a utilitarian commercial function were constructed in the fourth century on the Panathenaic Way near the Dipylon Gate.[130] As at Sardis a small, late Ionic order was used in the colonnades at Athens.

At the south-east corner of the synagogue was located a major intersection for this sector of the city (Plan 43). Remains of the eastern end of the portico show that it was adapted to serve both the colonnade on the decumanus and a colonnade on the west side of a north-south street. The stylobate was enlarged at the corner to take four pedestals which were probably designed to support piers for a four-way arch. In the

intersection itself there is now a ramp that represents a later paving but at the time of building there may have been a tetrapylon to mark the crossing. Such a structure is mentioned in the inscription that records the building of a colonnaded street that led off from this area in a southwesterly direction and a likely place for it would have been in the intersection.[131]

The colonnaded street mentioned in the inscription is known from only a few architectural remains (Pl. 52b). Little excavation has taken place along its probable route. As can be seen on Pl.52c, the columns would have rested on Attic-Ionic bases set on plinths on the stylobate. The pedestal carved in one piece with a simple base having right-angled mouldings of the type found, for example, at Side comes possibly from a structure set at a corner. The axial intercolumniation is 3.15 m. Columns from this portico have a lower diameter of 0.36 m., an upper diameter of 0.32 m. and a height of only 2.10 m. The small size of the order is striking and reinforces the point that Late Antique installations here are lacking in monumentality. The roadway itself has a width of only 7 m.

It runs in a north-east/south-west direction through an area that contains several other late structures. An area of habitation lies on the heights above the roadway

and it may have been both the main axis route to the houses and the neighbourhood shopping area. Interestingly enough this project does not appear to have been financed by the city. The inscription referring to the work says that it was done without municipal funds but unfortunately it neglects

to say where the money did come from. The wording of the inscription implies that this colonnaded street (embolos) is a new installation, not a repair of existing structures, since it records that a gate had to be removed to make way for it. Projecting the street in a southwestern direction brings it to a possible gate in the city-wall. The length of the road-way would have been only approximately 200 m.

Source 18 records that this colonnaded street went at least as far as another colonnaded street (embolos) called Hypaepa. The latter street has not been located in the ex-cavations but the use of the word embolos to refer to it does imply that a third street had colonnades.

A fourth street in this quarter was embellished with a portico on at least one side. The north - south street at right angles to the main decumanus passes in front of the facade of the palaestra which forms part of the gymnasium complex and on its west side it has a portico (Plan 43). This row of columns would have formed a screen in front of the wall which defined the eastern boundary of the palaes-tra. The major entrance into the gymnasium was pierced through this wall.

Since there were no shops behind the portico it is likely that the primary intention here was not to create a shopping area but to provide the first architectural element for the gymnasium complex or for whatever took place here in the Late Antique period. Architectural pieces from many buildings and periods are gathered together in the roadway so that it is difficult to ascertain what belonged originally to the colonnade. It is possible that this colonnade is a part of the original Roman phase of building when the gymnasium was put in rather than belonging to the later redevelopment of the area.

The major point of interest at Sardis is the evidence here for an extensive use of enclosed streets in the Late Antique period even within one relatively small quarter of the city. Their implementation is likely to have been primarily for commercial purposes and Libanius's words describing the good fortune of Antioch's residents in having local shopping areas in the shelter of porticoes can easily be applied to Sardis.

[133]
Ephesus (Plan 44)

At Ephesus there is a wide variety apparent in the approaches taken to street-management. The city has a long history of monumental planning and architecture and, not surprisingly since it is in the mainstream of developments in western Asia Minor throughout the Classical and Hellenistic pe-

riods, it contains an example of Hellenistic stoas applied to a street-like area.[134] A direct continuation of these Hellenistic traditions can be seen in the Neronian era on a main thoroughfare which bears the name of Marble Road in the literature (Pl.53a -right).

The north - south roadway had always been an important element in the Lysimachan grid system imposed on the site[135] since it joins two important civic centres - the theatre and the state agora (A on Plan 44). According to an inscription the stoa which lines the west side of the street was dedicated to Nero.[136] It is approximately 160 m. long and unusually wide, being 13.27 m. It is, however, a rare example of a double stoa being placed on a street. The outer order is Doric and the inner is now Corinthian of Severan date. The original order for the inner row cannot be ascertained. It is constructed of marble and the workmanship is of a high calibre with carefully facetted columns.

In terms of planning, the placement of this stoa is very characteristic. It is attached to the eastern wall of the commercial agora as well as facing out to the street. Such a juxtaposition of agora, portico and street can be found as early as the Hellenistic grouping in Priene and it continues to appear in the later planning at sites such as Side where the portico facing towards Colonnaded Street A was constructed against one side of the agora. That the colonnade at Ephesus,

however, was intended to go with the roadway rather than with the agora is apparent from the fact that it could be entered only from the street. Steps were provided at the north end from the lower level of the street. The portico is, in fact, removed from a direct visual connection with the street by the 1.7 m. high podium of carefully pulvinated blocks on which it rests (Pl. 53a).

There is a sidewalk, approximately 2 m. wide, on either side of the roadway between the pavement and the structures lining the edges. The pavement now in situ consists of carefully laid marble blocks donated by a citizen of fifth century Ephesus, Eutropius. His portrait and an inscription honouring him for his work come from the street.[137] This date for the expensive form of repaving testifies to the continued importance of the Marble Road as a main artery into the Late Antique - Early Byzantine period.

It is apparent from Pl. 53a that the street became fully enclosed at some point, with a colonnade being added on the east side of the street. Three monolithic limestone columns can still be seen standing on their Attic-Ionic bases set on plinths. A stylobate, 0.50 m. high, was roughly constructed behind the sidewalk. This portico is not considered by the excavators to be contemporary with the Neronian construction and indeed its architectural members such as the monolithic shafts and the bases carved in one piece with the plinths are more characteristic of the second century or later. It is

clear, however, that this short road was completely enclosed by a cumulative process in the Roman period.

The vista looking south along the street is now marked only by the natural mass of the hill (Pl. 53a), but from the Hadrianic period onwards a decorative gate of the type known in a well-preserved state from Athens formed the visual terminus here providing a typical example of such deliberate siting of independent structures for their visual effect in combination with a roadway (B on Plan 44).[138]

The example of street-management which dominates visually in Ephesus is the Arkadiane, the most important east - west street in the western half of the city (C on Plan 44). It would have been laid out originally as part of the Hellenistic replanning of the area but it assumed a greater importance which is symbolized by its architectural decor as the port became a major element in the city's life. The Arkadiane leads directly from the port to the theatre (Pl. 53b) but ultimately it gives access to the entire public sector by forming a junction with the Marble Road which both leads to the State Agora and turns into Curetes Street, the ancient processional way of the city (Plan 44). The colonnaded thoroughfare leading directly to the port is a format paralleled at Soli-Pompeiopolis.

The name assigned to the roadway provides a date for the format now visible. An inscription from the street records that in the reign of the emperor Arcadius (A.D. 395-408) the

roadway was built with two colonnades and was provided with street lighting.[139] The name Arkadiane was assigned to it in the inscription in order to honour the emperor. Since Arcadius was in fact present in the city, he may have personally contributed funds for the project. Such an undertaking could well have been necessitated by the serious earthquakes recorded for Asia Minor in the mid-fourth century. Work on the street forms merely one aspect of a larger building programme that included construction of a bath building, the "Marienkirke" and restoration work on Curetes Street.[140] A consideration of the architectural decor along its length, however, makes it immediately clear that the original embellishment of the street dates from a period well before the Late Antique.

The Arkadiane had a length of c. 530 m. and a width of c. 11 m. for the roadway itself; its dimensions are standard for functional thoroughfares within a townscape. On either side stand porticoes 5 m. wide. Their axial intercolumniation averages about 3.30 m. Drainage is provided by covered channels on both sides.

Even before the original addition of porticoes the roadway received archtectural enhancement in the form of an Augustan decorative gate to mark its western end (D on Plan 44). The order of the gate was Ionic and took the form of a screen of columns.[141] Thus was created an early example of a non-functional gateway for visual accent on the axis of a street. The dominant feature at

its eastern end in the first century was the looming mass of the theatre, originally Hellenistic but reworked extensively during the first century.[142] A Hellenistic fountain stands on a slightly higher level than the road between it and the theatre.

Important public monuments began to be aligned along it from the early Imperial period. In the first century the Harbour Baths-Gymnasium complex was first laid out on the north side of the street on the same axis (E on Plan 44). In the Hadrianic period a private citizen, Verulanus, added to the complex and a system of approaches was created between the thoroughfare and the bath. A monumental propylon formed a transitional element between the road and a round courtyard surrounded by columns which formed an open foyer for the bath itself. This entrance was aligned with a structure containing niches set on the south side of the street; it was converted into a nymphaeum in a period of secondary use (Pl. 58a). In its present form the structure interrupts the colonnade of the street with a parapet of ashlar masonry set on the stylobate and abutting against a pedestal from the portico. Hence, the structure as it stands must certainly be later than the original Roman colonnade in this part of the street and it is possible that the fountain dates from the

period of reconstruction under Arcadius.

An analysis of the remains of the porticoes indicates that some part, at least, of the Arkadiane must have been colonnaded by the middle of the second century. Much anastylosis has been done and it is difficult to be certain in all cases that the elements in place originally stood in exactly that spot. Bases, columns and capitals were erected in the places that logically fit their findspots, but in a few cases the capitals seem to be obviously out of place because of their size or style.

The paving now in place along the roadway is more likely to belong to the Arcadian rebuilding than to the original Roman street. Its level is almost up to the top of the stylobate but not quite flush with it so that neither a step nor an even surface is created (Pl.54b). The stylobate was probably originally one or more steps up from the level of the roadway. It is a very carefully done pavement, being made up of parallel horizontal rows of blocks. The regularity is broken in places by blocks placed on the axis of the street. No reused blocks appear in it. The material is marble, testifying to the costliness of the work.

In its eastern half the street is slightly wider because the stylobate on the north side is set slightly further to the north than in the portion of the street to the west (Pl.54a). We are not concerned here with a deliberate widening of the roadway to accommodate the traffic as at Side since the southern portico does not change its position in relation to the others

on that side of the street and the deviation of the northern colonnade is not great enough to make much difference to the space available in the roadway. The back wall remains on a line for the whole length. The situation of the portico here appears to be governed by the width of the staircase immediately to the east. The column bases nearest the stairs are aligned exactly with the inner edge of the framing pier. This relationship suggests that the portico was constructed either at the same time as the stairs now in place or else that it is later. The broad flight of three stairs spans the road and the short projecting wings on either side serve as a frame. This format is an attenuated version of the framing effect of the nymphaeum at Perge.

A date in the first half of the second century for the elements belonging to this portico seems most likely. Beginning at the east end three columns rest on Attic-Ionic bases on plinths set directly on the stylobate (Pl.53b). Then twenty-five columns rest on pedestals set beneath the bases and plinths. It is worth noting that the bases, plinths and pedestals are all carved from one block. The pedestals are 0.57 m. in height with mouldings at top and bottom and the base is 0.18 m. high. They are made from marble. The attenuated upper torus which sits well back in relation to the lower torus can be compared to the bases of the columns of the colonnaded street at Hierapolis-Castabala which has been tentatively ascribed to the Antonine period (Pl. 36a).

The columns for this portico are all plain, monolithic marble shafts with a fascia and convex moulding at the top and a heavy, squared moulding at the bottom (Pl.55b). Restored on many of the columns in this portico of twenty-eight columns are marble Composite capitals (Pl. 55c). The capitals are carved with two rows of acanthus leaves having the softer more regular outline typical of the Pergamene - Ephesian group. There is a marked emphasis on a broad heavy central rib achieved by deeply cut vertical grooves. The leaves cover only approximately two-thirds of the bell, leaving a noticeable empty area at the top of the capital. The ovolo is large and heavy with tall, narrow oval eggs entirely surrounded by a sheath which sits closely around each one. The volutes are carefully carved in high relief. The last two details find close parallels on the Ionic capitals from the colonnaded street at Perge, probably Antonine in date (Pl. 13a). Another parallel comes from Ephesus itself from the nymphaeum of Trajan. The details of the forms and the placement of the elements compare very closely.[143]

The eastern portion of the north side of the street, therefore, appears to have been embellished with a uniform colonnade of twenty-five marble columns carrying Composite capitals. At its eastern end this portico was slightly different in that the columns do not have pedestals and are lower as a result. An explanation for the modification might be that the eastern end

had to be brought into relation with the superstructure on the piers flanking the stairs. The material and order are otherwise the same so that the three eastern columns can be considered part of this project which, on stylistic grounds, belongs to the first half of the second century.

This portico was treated as an architectural unit with a well-defined form being applied to its western end (Pl. 59a). Two piers on square bases with the remains of an arch in situ are still found here. Since the road level drops towards the west, at this point an adjustment is made in the form of two steps leading down to the lower level maintained for the rest of the structures to the west. In the roadway itself a small ramp effects the change in level. The presence of a ramp rather than stairs proves that the Arkadiane must have been available for wheeled traffic thoughout its history.

Immediately to the west the transition to the next portico is unclear (Fig. 31 and Pl.59b). A series of heavy, square bases is set both on the southern line of the portico in the western half of the road and in a line marking the eastern extent of this portico. These all may have carried piers and arches on comparison with the elements in situ belonging to the eastern portico.

The colonnade lining the northern side of the street in its western half is not quite as homogeneous as that to the east (Pl.54b). Most of the capitals restored here are Composite but there are also Corinthian of various types. Pl. 56a

and c illustrate two examples with slightly differing details but both obviously belonging to the late second-early third centuries. Especially noteworthy traits are the spreading of all the elements up to the very top of the bell so that there is very little room for ev-

en the attenuated helices and volutes. The frame behind the leaves of the lower rows is typical of capitals of the second and early third centuries at Ephesos and is found on capitals influenced by this school of carving as far away as Hierapolis-Castabala (Pl.34b). The stylized arch formed by the inner leaves of the calyxes on the capital in Pl.56a is particularly noticeable on capitals of the Severan period.[144] The trait of creating a continuous pattern around the very base of the capital by means of the lowest folioles of each leaf, which join together to form a noticeable ring is also a late second-third century manifestation, found on capitals, for example, at Soli-Pompeiopolis (Pl. 64b,69b). The presence of a number of these probably Severan capitals must indicate some work on the street occurring at this period. But because of the mixed nature of the architectural decor in this sector it is difficult to say whether the whole western half was embellished at this time or whether these capitals represent a repair or perhaps one small section within the eastern portico. A factor to consider is that although most of the shafts along here are monolithic marble, the Corinthian capital

rests on a column of coarse conglomerate stone. There are a few other examples of this type of column scattered along both sides of the street and they could belong to a period of reconstruction, perhaps even the Arcadian repairs which must have been extensive. Capitals from destroyed buildings elsewhere in the city may have been reused in this repair work. The Severan Corinthian capitals having different styles could have been brought from buildings no longer functioning for use on the street in the Late Antique period. The capital in Pl. 56b does, in fact, look slightly too small for the column on which it is standing.

Most of the columns in this row stand on low pedestals which get gradually higher toward the west as the ground level sinks. They would belong to the original Roman construction of the portico.

Two other details of architectural decor from the north side of the street may be briefly mentioned. A small number of capitals of the distinctive acanthus and fluting type are found in the area of the street (Pl. 55a). One type within this group is characterized by very tall narrow leaves with a soft outline, tongue-like flutes and a marked curvature outwards at the top of the kalathos. Closely comparable capitals of assured Hadrianic date come from the porticoes of the Traianeum in Pergamon.[145] The second type differs in its format in that the kalathos is taller and the abacus is correspondingly lower to allow for two rows of acanthus leaves as well as the

flutes. A broken architrave block lies in the western half. It has three fasciae and on the soffit there is a plain, pulvinated band set in a frame (Pl.57c).

The colonnade on the south side, unlike its northern counterpart, is set on the same line for its entire length. At the eastern end the details are not so well preserved but it is clear that the columns do not stand on pedestals here. Only Attic-Ionic bases on plinths are found (Pl.57b). The order is not definitely known since the Corinthian capital now sitting on the base in the photograph is too small to have come from the column belonging to it and the other capitals in the area are a widely assorted group.

In the western portion all the columns stood on pedestals to make up for the change in level (Pl.54b). As in the eastern section the architectural decor lacks unity. Among the marble column shafts are set rougher conglomerate ones on top of one of which there is an odd Corinthian capital which is either very badly worn or never finished (Pl. 56b). Its surviving details date it to approximately the second quarter of the second century when tall open helices, large calyxes with an inner leaf very small in proportion to the outer and an extra acanthus leaf as support for the helices are all characteristics of the Hadrianic Corinthian capitals from the Traianeum.[146]

Among the various types of decor used for the order of the porticoes there is nothing either in situ or lying about the area of the street that can be definitely assigned to the period

of Arcadius. On the basis of their style the elements seem to fall into two main periods - the first half of the second century and the late second - early third century. Hence, the Arcadian reconstruction cannot have involved the carving of architectural decor. On the other hand, the marble pavement now in place could well belong to the later period because of its position in relation to the stylobates.

Also to be assigned to the Late Antique - Early Byzantine period would be the mosaic laid in the porticoes of which fragments have been found. The designs were geometric and included elements such as ivy leaf borders which are known from Perge.[147]

Two different techniques are visible in the construction of the walls of the shops and structures which are found behind the porticoes on both sides of the street (Pl. 60 a and b). In the first type the walls are constructed only of rubble in mortar. The fairly regular nature of the sizes and the laying of the stones is noteworthy. Rows of larger stones alternate with narrow bands of small stones. Such a technique is common throughout the Roman and Late Antique period and cannot be closely dated though the regularity and care apparent in the work makes a date contemporary with the second century work likely.

The second type of wall is also carefully and solidly constructed but both rubble and bricks are used. A row of large stones set in mortar alternates with two to four rows of bricks. The lower portions generally contain reused architectural blocks and column drums (Pl.60b). These walls find an exact parallel

in the walls of the shops behind the Late Antique colonnade at Sardis which is assigned to ca. A.D. 400 (Pl.51b). The reused Roman architectural pieces in them support an attribution of the portions of wall exhibiting the technique of bricks and rubble to a later building period. The Arcadian reconstruction is the probable period for the appearance of these walls, no doubt in places where the earthquakes had completely destroyed the former shops.

Also to be assigned to the Arcadian period are the cuttings now visible on many of the columns lining the street (Pl. 57a). In the inscription describing the work of this period, fifty lighting devices are mentioned.[148] The roughly rectangular holes with a support left in the centre which are placed approximately one-third of the way up the column no doubt belong to the Arkadiane's lighting system. Torches could be bound to the support by passing a rope around the two. Ephesus is not the only city in the eastern Mediterranean known to have had a form of lighting by the Late Antique period. Ammianus Marcellinus reports that Syrian Antioch's main street was illuminated at night.[149]

A major element in the subsidiary decor of the street was erected in the Late Antique or Early Byzantine period in the form of four honorary columns on tall pedestals set approximately half-way along the street (Fig. 32). Published opinions differ about the date of these columns. F. Miltner assigns them to Arcadius[150] while J. Keil and W. Alzinger think they belong to the sixth century and possibly more specifically to the reign of Justinian.[151] There is also disagreement as to the

order of the capital which stands on the well-preserved column on the south side of the street. It is identified both as Composite and Corinthian.

The lower part of the format is clear (Pl. 58 b,c). On a square three-stepped base was set a tall round pedestal decorated with arched niches separated by columns with the Corinthian order. It carried a monolithic marble shaft decorated with a heavy convex moulding and a fillet at the top and with three heavy convex mouldings at the bottom. Under the column is a simple base consisting of a torus on a plinth. The column carried a capital of the Corinthian order. The top of the capital is badly worn but the rudimentary elements in the upper portion which can be made out are characteristic of Late Antique-Early Byzantine Corinthian capitals. The four columns interfered only slightly with the traffic on the roadway since they are placed as close as possible to the stylobate of the portico on each side.

For the top of each column statues of the four Evangelists have been suggested. There is a parallel from an earlier period when statues of the Tetrarchs were placed on a group of four columns marking a frontier in North Africa.[152]

The details of the Corinthian capital are typical of the period of transition between naturalistic forms which are still recognizable as leaves and calyxes and the highly stylized, decorative lace-like forms of the Byzantine period. On this capital

the sense of a bell to which leaves are attached is, in fact, lost. Two rows of leaves are set rigidly in a flat plane taking up almost the entire height of the capital. The smooth broad surface of each leaf is broken only by two narrow vertical lines incised down the centre, recalling the fleshy central rib of more naturalistic predecessors. The main emphasis is on the contrast between the plain light coloured surface of the leaf and the dark voids forming geometric patterns where the leaves are joined to one another in a continuous fashion around the bell. The pattern of voids is very regular over the whole surface, thus creating a formalized series of lines. At the top of the bell the attenuated helices and volutes form a narrow band. A very similar capital is found in the Istanbul Archaeological Museum, dated to the mid-fifth century.[153] Another close parallel comes from a dated shipwreck of the Justinianic period.[154]

The forms of the elements on the capital suggest that the honorary columns did not form part of the Arcadian rebuilding of the street. The later fifth or early sixth century is a more likely date for its installation. Also arguing against the earlier date is the fact that the columns are not mentioned in the inscription describing the work in the reign of Arcadius. Since it is detailed enough to include mention of the lighting devices, an outstanding feature such as the columns would certainly have been included.

A third street with colonnades, Curetes Street, exhibits

a format more related to the Italic type monumentalized (F on Plan 44 and Pl. 61a). It runs in a northwest - southeast direction following an ancient lay-out dating from before the imposition of the grid system. Curetes Street maintained its importance as a Processional Way from earliest times and throughout the Roman and Early Byzantine period served as a major access route since it led directly into the Marble Road which in turn joined up with the Arkadiane. The buildings lining it served very diverse functions since stately public structures are to be found mingling with private habitation in the form of terrace houses. This mixture of public and private is reminiscent of land use in Italian cities rather than of the more strictly zoned Hellenistic Greek city.

The street is not ideally suited for the application of porticoes since its level rises steeply to the northwest (Pl.61b). It is clear, however, from the remains that small groups of columns were set up to act as facades or porches for the buildings behind them. The change in level along the street would make a continuous architrave for the line of columns visible on the west side of the street in Pl. 61 a,b impossible. No devices such as consoles to accommodate the architrave blocks from adjacent columns at a lower level are preserved anywhere on the street. The most likely reconstruction of the upper section of the porticoes here would be wooden or stone architraves joining together only a very small number of columns. Each group would form a porch for and be dependent upon the building immediately

behind. For example, the two fluted columns with Corinthian capitals in Pl. 61b form an obvious pair, isolated from the the plain monolithic column of much lower height visible to the left. The area behind the columns has not been excavated and, therefore, it is impossible to know exactly what types of building stood behind the various porches.

As can be seen in Pl. 61 a and b, the lower section of Curetes Street on the northwest side was decorated with a continuous line of statue bases honouring local citizens. Many of the bases are reused ones from an earlier time. The fifth century is the period when most of the statues were set up on these bases,[155] testifying both to a floruit at Ephesus in this century and to the continued importance of Curetes Street as a main thoroughfare in the townscape.

On the southeast side of the street at its lower end are two large terrace houses adapted to the slope of the hill. Built originally in the first century they continued in use with modifications into the Early Byzantine period, recalling the long life of the habitation area at Side.[156] Facing on to the street and forming the ground floor of Terrace House I are ten tabernae with a second story of rooms above reached from an alley climbing the slope beside the house (Fig. 33). The format is one associated with towns in Italy and the similarities are further strengthened by the presence of a portico in front of the rooms. Its stylobate is stepped to accommodate it to the slope of Curetes Street and the width varied from 4.70 to 5.50 m. depending on the space available. The shops

also are irregular in size and shape. The remains now visible date from the Late Antique - Early Byzantine period with reused elements in the order and a fifth century geometric mosaic on the floor. An inscription from this period records that a citizen named Alytarches either built or restored it. The date at which a stoa was first put in front of the tabernae has not been established but it is likely that there was one here in the Roman period. An inscription dated to the third century refers to the inhabitants of the Embolos.[157] Since these are the only houses known from the area it is likely that the inscription concerns those who were living in the terrace houses. The use of embolos as the defining structure is not surprising since the portico is the first and most prominent element in the lay-out of the houses.

Curetes Street never had a unified or fully enclosed appearance. Where there are porticoes, they are more a part of the buildings behind than the street in front. The marked change in level of the roadway itself and its variation in width from ca. 8.50 to 10 m. contribute to the fragmented nature of the work along it.

Two further examples of the Italic tradition, though on a smaller scale, are found on the site. Fronting on to an alley formed by stairs are three columns making a porch for Terrace House 2.[158] This work is dated to the fifth or sixth century. Forming the street-facade for the East Gymnasium is a portico with shops behind dating from the Roman period (Fig. 34).[159]

To the north of the Arkadiane in the western sector of the city, set within the grid system, there is an enigmatic structure 200 m. long (G on Plan 44). Its present format dates from the Early Byzantine period when it was subdivided and added to in order to create Christian churches. But in its original phase it would appear to resemble a colonnaded shopping street or mall.[160] The central portion was not roofed. On either long side there was a row of columns behind which were rooms. The short sides were closed by semi-circular exedrae so that the entire complex was a self-contained unit with a total length of 265 m. The width is ca. 30 m. The building seems to have been a cross between a street and a peristyle agora and illustrates yet another possibility for the application of porticoes to areas of different shapes. The first structure is dated to the Hadrianic period on the basis of the style of the architectural decor. Alzinger accepts some sort of commercial function for the Roman phase of the building. Another theory was accepted by F. Miltner.[161] He uses the inscription referring to a Museion that was found in the ruins to support a suggestion that this building was a school with the rooms on either side intended for study while the porticoes were to be used for teaching in the traditional Greek way. Either function could equally well be served by the building's lay-out.

For the final type of embellished street in Ephesus there is only literary evidence. The sophist, Flavius Damianus, is

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For the final type of embellished street in Ephesus there is only literary evidence. The sophist, Flavius Damianus, is

reported to have built in the second half of the second century a colonnade from the Magnesian Gate to the temple of Artemis.[162] It is usually assumed that Philostratus is saying that Damianus actually constructed a street with colonnades to be the sacra via for the whole distance of approximately one kilometer between the area of the gate and the sanctuary. A glance at the text, however, reveals a problem. The work of Damianus is described in some detail and it is explicitly stated that he built a marble portico (stoa in the singular) a stade in length on the road connecting the temple to the Magnesian Gate. A stade is only ca. 200 m. in length making the stoa hardly long enought to join the sanctuary to anywhere in the Hellenistic foundation, let alone the Magnesian Gate. The use of stoa in the singular is also noteworthy.

The writer goes on to give the primary reason for the structure. It was not intended to create a monumental approach to the temple or to provide additional shopping areas. It was designed specifically to provide shelter in case of rain to those en route to the temple. It is clearly a place of refuge when the weather was suddenly inclement and would have played the same role as porticoes attached to theatres. Hence, the description of the building probably accurately describes its nature. It stood on one side of the sacra via serving the temple of Artemis, probably half-way along the route, and it provided an enclosed area ca. 200 m. long for the convenience of worshippers. The construction of an independent stoa in the

Roman period is in itself an interesting occurrence since by this time the building type is almost invariably part of a larger complex.

The position of Ephesus in the centre of innovative architectural activity in the Hellenistic period and its own wealth and importance contributed to the city's early adoption of new ideas in street-management. It is apparent that throughout the Roman and Late Antique periods planning always included streets as a vital element within the townscape to be treated with various types of architectural embellishment.

Notes to Chapter V

1. For the known history of the site see M. Gough, "Anazarbus," Anatolian Studies 2 (1952) pp. 85 - 98; J. T. Bent, "Recent Discoveries in Cilicia," JHS 11 (1890) pp. 231 - 233, 238 - 242.

2. The dating of the wall and arch are based on personal conversations with Dr. H. G. Hellenkemper, Köln Museum, who has studied them in detail for his doctoral dissertation.

3. There is no comprehensive publication of the site. For a general description by early and by more recent travellers see C. Fellows, Asia Minor (London 1839) pp. 190 - 192; K. Lanckoronski, Städte Pamphyliens und Pisidiens I (Vienna 1890) pp. 33 - 63 (hereafter Städte I); G. E. Bean, Turkey's Southern Shore (London 1968) pp. 45 - 58. Reports on the many seasons of excavation by Turkish archaeologists can be found in A. M. Mansel and A. Akarca, Pergede Kazılar ve Araştırmalar. Excavations and Researches at Perge (Ankara 1949) and A. M. Mansel, "Bericht über ausgrabungen und untersuchungen in Pamphylien in den Jahren 1946 - 1955," AA 71 (1956) cols. 34 - 120 (hereafter Mansel, 1956). Summaries of each season appear in "Recent Archaeological Research in Turkey" in most volumes of Anatolian Studies up to 1974. The architecture of the street appears in 18 (1968), 21 (1971), 22 (1972), 23 (1973) and 24 (1974). All of these reports were written by Dr. Mansel. A fuller treatment by Mansel of the excavated buildings appeared in "Bericht über ausgrabungen und untersuchungen in Pamphylien in den Jahren 1957 - 1972," AA 90 (1975) pp. 57 - 96 (hereafter Mansel, 1975).

4. IGRP III, 789.

5. Mansel, 1956 cols. 110 - 112.

6. A. M. Mansel, "Perge, 1970," in "Recent Archaeological Work in Turkey," Anatolian Studies 21 (1971) p. 36.

7. Mansel, 1956 cols. 112 - 119 for the arch.

8. Ibid col. 106, n. 78 and col. 109.

9. Details with a reconstruction of the nymphaeum are found in Mansel, 1975 pp. 83 - 92 and Pl. 56 and in "Die Nymphaeen von Perge," Ist. Mitt. 25 (1975) pp. 319 - 334.

10. Mansel, 1975 p. 92.

11. Ibid p. 91, Pls. 62 and 63 and J. Inan, "Neue Porträtstatuen aus Perge," Mélanges Mansel (Ankara 1974) pp. 649 - 651, Pls. 198 - 201.

12. J. Inan and E. Rosenbaum, Roman and Early Byzantine Portrait Sculpture in Asia Minor (London 1966) pp. 68 - 69, no. 29 and Pls. XIX, 2 and Pl. XXI.

13. Personal communication from Susan Walker, currently engaged in research for a doctoral dissertation on nymphaea for the Institute of Archaeology, London.

14. "Perge, 1973," in "Recent Archaeological Research in Turkey," Anatolian Studies 24 (1974) p. 49.

15. e.g. E. Akurgal, Ancient Civilizations and Ruins of Turkey (Istanbul 1973) p. 331 and G.E. Bean, "Perge," Princeton Encyclopedia of Classical Sites (Princeton 1976) p. 692.

16. A. M. Mansel, "Perge, 1967" in "Recent Archaeological Research in Turkey," Anatolian Studies 18 (1968) pp. 39-40.

17. Mansel, 1956, col. 120.

18. Städte I Pl. VII for the architrave from the Hadrianic arch.

19. Ibid Pl. XXVI.

20. D. de Bernardi Ferraro, Teatri Classici in Asia Minore III. Citta dalla Troade alla Pamfilia (Rome 1970) p. 173.

21. Ibid p. 154, fig. 169.

22. A. M. Mansel and A. Akarca, op. cit. (n. 3) pp. 62 - 63.

23. There are no figures extant for the cost of such individual items although the costs of some completed buildings are known.

24. See, for example, the mosaics at Apamea and Antioch: C. Dulière, Mosaiques des portiques de la Grande Colonnade (Fouilles d'Apamée de Syrie. Misc. Fasc. 3) (Bruxelles 1974) passim; J. Lassus, Antioch-on-the-Orontes. V. Les portiques d'Antioche (Princeton 1972) passim.

25. For a similar ivy pattern as border from Smyrna see R. Naumann and S. Kantar, "Die Agora von Smyrna," Kleinasien und Byzanz (Berlin 1950) p. 89 and p. 90, fig. 6. It is undated but is compared to an early fifth century mosaic from Salona, p. 89, n. 2.

26. op. cit.(n. 14) pp. 48 - 49.

27. Ibid p. 49.

28. Ibid pp. 48 - 49.

29. Mansel, 1975 pp. 62 - 74 for details of the Severan work.

30. IGRP III 789 and CIL 6734 for the inscription recording its dedication.

31. No formal excavations have ever been published from the site. The most detailed description of the visible remains is found in J. Keil and A. Wilhelm, Monumenta Asiae Minoris Antiqua III. Denkmäler aus dem Rauhen Kilikien (Manchester 1931) pp. 44 - 71 (hereafter MAMA III). Other general surveys are published by Y. Boysal in "Uzuncaburç ve Ura Kilavuzu," Milli Eğitim Bakanlığı Eski Eserler ve Müzeler Genel Müdürlüğü yayını 1, 15 (Istanbul 1963) pp. 1 - 11 and by R. Heberdey and A. Wilhelm in Reisen in Kilikien ausgeführt 1891 und 1892 (Denkschriften der Kaiserlichen Akademie der Wissenschaften in Wien. Philosophisch-Historische Klasse. Band 44,6) (Vienna 1896). For a synthesis of the known information and full bibliography see T. S. MacKay, "Diocaesareia," Princeton Encyclopedia of Classical Sites (Princeton 1976) pp. 275 - 276 but it should be noted that she perpetuates incorrect datings for the colonnaded streets which she says are constructions of the first century. Short accounts of the site can be found in E. L. Hicks, "Inscriptions from Western Cilicia," JHS 12 (1891) pp. 225 - 273; J. T. Bent, "A Journey in Cilicia Tracheia," JHS 12 (1891) pp. 220 - 221; E. Herzfeld, "Archäologsche Gesellschaft zu Berlin. März-Sitzung 1909," AA (1909) pp. 434 - 441.

32. See my article, "The Corinthian Temple of Zeus Olbios at Uzuncaburç: A Reconsideration of the Date," AJA 78 (1974) pp. 405 - 414.

33. For the evidence see A. M. Verilhac and G. Dagron, "Une nouvelle inscription du temple de Zeus a Diocesarée, Uzuncaburç (Cilicie)," Revue des études anciennes 76 (1974) pp. 237 - 242; MAMA III pp. 44 - 45.

34. It is generally assumed in the literature that the construction took place in the first century, e.g. E. Herzfeld, AA (1909) p. 439.

35. For the text of the inscription see E. L. Hicks, JHS 12 (1891) p. 264, no. 50.

36. The same form of capital is found at neighbouring Olba on

the colonnaded street (Pl. 83d). It also appears at Korykos and Elaeussa-Sebaste. See MAMA II p. 174, fig. 183 and especially A. Machatschek, Die Nekropolen und Grabmäler im Gebiet von Elaiussa Sebaste und Korykos im Rauhen Kilikien (Vienna 1967) Pl. 58 for a capital on the Grave Temple, unfortunately undated. P. Collart and J. Vicari claim in La sanctuaire de Baalshamin à Palmyre I, II. Topographie et Architecture (Institut Suisse de Rome 1969) that such capitals from Palmyra are unfinished or hurriedly finished but this conclusion is soundly criticized by J. Ch. Balty in his review of the book in Gnomon 6 (1974) p. 80. H. C. Butler had noted the popularity of this form in Syria, especially in the fourth to seventh centuries. See The Publications of an American Archaeological Expedition to Syria in 1899 and 1900. II. Architecture and Other Arts (New York 1903) p. 28.

37. "Calices" (calix) seems to be more appropriate than "calyces" (calyx) for smooth leaf Corinthian since the element is in appearance more like a cup-like cavity than a leafy whorl.

38. MAMA III p. 48.

39. Heilmeyer, Normalkapitelle Pl. 51,4.

40. Kautzsch, Kapitellstudien, Pl. 4, nos. 32,34 and 38 and pp. 22 - 24, s.v. "Volle Kapitelle".

41. Ibid Pl. 4, no. 32 and p. 23.

42. J. Balty (ed.), Apamée de Syrie. Bilan des recherches archéologiques 1965 - 1968 (Brussels 1969) Pl. XLI,1 and p. 112.

43. A. Luquet, "La basilique judiciaire de Volubilis," Bull. d'archéologie marocaine 7 (1967) p. 408 and Pl. VI, p. 433, fig. 5.

44. For a discussion and classification of peopled scrolls see J. M. C. Toynbee and J. B. Ward-Perkins, "Peopled Scrolls: A Hellenistic Motif in Imperial Art," PBSR 18, n.s. 5 (1950) pp. 1 - 43.

45. e.g. R. B. Bandinelli, Leptis Magna (Rome 1963) Pl. 140 and M. F. Squarciapino, Sculture del Foro Severiano di Leptis Magna (Rome 1974) Pl. XLVI, 1 - 3, XLVII, 1 - 4, XLVIII, 1 - 3, LVII, 1 - 4, LIX, 1 - 4.

46. R. P. Harper and I. Bayburtluoğlu, "Preliminary Report on Excavations at Sar, Comana Cappadocia, in 1967," Anatolian Studies 18 (1968) Pl. LV(a).

47. I. R. Pitchikian, "Entablements Bosphoriens des premiers siecles de n. e.," Archéologie Sovietique 1 (1975) p. 178, fig. 4.

48. J. W. Crowfoot, K. M. Kenyon, E. L. Sukenik, Samaria-Sebaste. Reports of the Work of the Joint Expedition in 1931-1933 and of the British Expedition in 1935. I. The Buildings at Samaria (London 1942) p. 60, fig. 27.

49. op. cit. (n. 20) p. 155

50. B. Filarska, Studia Palmyrenskie II (Warsaw 1967) p. 16. (English translation courtesy of M. Colledge). M. P. Rossignani, La Decorazione Architettonica Romana in Parma (Rome 1975) Pl. XXXII.

51. e.g. M. Lyttleton, Baroque Architecture in Antiquity (Thames and Hudson 1974) Pls. 124, 129, 130, 131, 141, 148, 169.

52. R. Naumann and S. Kantar, op. cit.(n. 25) Pl. 24b.

53. E. L. Hicks, op. cit.(n. 31) p. 264, no. 52 and p. 269, no. 71.

54. For consoles to carry architraves from colonnades at a lower level, see T. Fyfe, Hellenistic Architecture (Cambridge 1936) pp. 81 - 82, fig. 24 for examples from Palmyra and Gerasa.

55. For a reconstruction of the general appearance of the gateway see MAMA III p. 52, fig. 77 but note that it is incorrect in details, e.g. all the capitals are shown as being the same height.

56. See E. Wiegand, "Propylon und Bogentor in der östlichen Reichkunst, ausgehend vom Mithridatestor in Ephesus," Wiener Jahrbuch für Kunstgeschichte 5 (1928) p. 74, fig. 3.

57. K. Michalowski, Palmyre. Fouilles Polonaises 1959 (Warsaw 1960) fig. 45 and Plan II.

58. J. T. Bent, "A Journey in Cilicia Tracheia," JHS 12 (1891) p. 221 and E. L. Hicks, op. cit. (n. 31) p. 265, no. 54. Note that Bent must be referring to the gate when he talks about the "peculiar feature" (i.e. the consoles) on columns in the centre of the town. He mentions an arch over the columns and this is probably the arch that spanned the central intercolumniations.

59. Ibid no. 56.

60. MAMA III p. 52.

61. F. Imhoof-Blumer, Kleinasiatische Münzen II (Vienna 1902)

p. 439, no. 6 and Pl. 20.

63. R. Heberdey and A. Wilhelm, Reisen in Kilikien (Denkschriften der Kaiserlichen Akademie der Wissenschaften in Wien. Phil.-hist. Klasse 44,6) (Vienna 1896) p, 87.

64. Normalkapitelle, p. 105

65. Pl. 39,6.

66. B. Filarska, "Remarques sur le décor de la voie prétorienne au camp de Dioclétian à Palmyre," Travaux du Centre d' archéologie mediterranéenne de l'Academie polonaise des Sciences 3 (1966) Pl. IX, 2 and Pl. X, 1 and 2. Note the same heavy bead-and-reel between column and capital.

67. For the egg-and-dart, lesbian cyma and, to a lesser extent, the bead-and-reel, see the architectural decor from the Severan forum at Lepcis Magna. e.g. M. Lyttleton, Baroque Architecture in Classical Antiquity (London 1974), Pls. 214, 222, 227. Also comparable are details such as the egg-and-dart on the abacus of the capitals from Palmyra referred to in n. 66 and the carving on architectural decor from the camp of Diocletian, illustrated, for example, in Pl. 165 of Baroque Architecture in Classical Antiquity and details on the order from the nymphaeum at Gerasa dated to A.D. 191, illustrated in Pl. 141.

68. This motif is found on most of the pieces mentioned in n. 67.

69. op. cit. (n. 63) p. 84, no. 160 and IGR III, 845.

70. e.g. E. Herzfeld, op. cit. (n. 31) p. 437 in 1909 and as recently as 1976 by T. S. MacKay in the Princeton Encyclopedia of Classical Sites.

71. op. cit. (n. 63) nos. 161 - 163.

72. The site has been studied and briefly described by only a very few travellers. See J. T. Bent, "Recent Discoveries in Eastern Cilicia," JHS 11 (1890) pp. 231 - 235; R. Heberdey and A. Wilhelm, op. cit. (n. 31) pp. 25 - 27; J. Keil and A. Wilhelm, "Vorläufiger Bericht über eine Reise in Kilikien," JÖAI 18 (1915) cols. 49 - 50, fig. 19; A. Dupont-Sommer and L. Robert, La Déesse de Hiérapolis-Castabala (Cilicie) (Paris 1964).

73. Bent, op. cit. (n. 72) Plan facing p. 235.

74. The two colonnaded street actually run from the northeast to the southwest and from the northwest to the southeast. Hence, they have been referred to as both cardines and decumani in the

literature. I have chosen for convenience to consider the north - south direction as the governing one.

75. op. cit. (n. 71) p. 44.

76. C. H. Kraeling, Gerasa (New Haven 1938) Pl. XXXII.

77. G. Schumacher, "Dscherasch," Zeitschrift der deutschen Palästinavereins 25 (1902) fig. 10.

78. M. Anabolu, Les temples de l'époque imperiale romaine (Istanbul 1970) fig. 75.

79. Normalkapitelle Pl. 33, nos. 2 and 4.

80. F. Eichler and J. Keil, Forschungen in Ephesos VI, 1. Die Bibliothek (Vienna 1953) p. 6, fig. 7.

81. See, for example, the capitals from the Harbour Baths at Ephesus, Normalkapitelle Pl. 27, no 3; the Library of Hadrian in Athens, Ibid Pl. 29, nos. 1 and 2; the Serapis temple at Ephesus, Pl. 33, no. 2; the temple at Euromos, Pl. 38, no. 1; the Round Temple at Ostia, second quarter of the third century, "Ordini Architettonici" in the Enciclopedia dell'arte antica e orientale (Rome 1973) Pl. 377.

82. Normalkapitelle Pl. 33, no. 2.

83. op. cit. (n. 31) p. 26.

84. Ibid pp. 25-27, inscription nos. 56, 61 and 62.

85. A. Dupont-Sommer and L. Robert, op. cit. (n. 72) pp. 35-36.

86. See the discussion of Pergamon, pp. 379-388.

87. The excavations at the site have been sporadically reported by A. M. Mansel and his colleagues. See A. M. Mansel, E. Bosch and J. Inan, Vorlaufiger Bericht über die Ausgrabungen in Side im Jahre 1947 (Ankara 1951) (hereafter Side 1947); A. M. Mansel, "Bericht über Ausgrabungen und Untersuchungen in Pamphylien in den Jahren 1946 - 1955," AA (1956) pp. 34 - 120 (hereafter AA (1956)); A. M. Mansel, "Les derniers résultats archéologiques et épigraphiques des fouilles de Perge et de Side (Pamphylie)," Acta Congressus Madvigiana I (1954)(Copenhagen 1958) pp. 369 - 373; A. M. Mansel, G. E. Bean, J. Inan, Die Agora von Side und die Benachbarten Bauten. Bericht über die Ausgrabungen im Jahre 1948. Untersuchungen in der Gegend von Antalya. Nr. 4 (Ankara 1956) (hereafter Die Agora); A. M.

Mansel, Die Ruinen von Side (Berlin 1963) (hereafter Die Ruinen). For the inscriptions see G. E. Bean, The Inscriptions of Side. Researches in the Region of Antalya, No. 5 (Ankara 1965).

88. Inscriptions naming four quarters of the city have been found. The quarters all appear to take their name from a landmark within each area, but they cannot represent a natural division of the town into four since Side does not show any evidence of such division resulting from two crossing main streets. The natural division of the town is into three, so these third century inscriptions must refer to smaller units such as neighbourhoods in which one monument forms a landmark. See Die Agora, p. 92.

89. For example, R. Martin, L'Urbanisme dans la Grèce antique (Paris 1956) p. 161 who assumes that the two streets are one with a bend in the centre.

90. Side 1947 pp. 19 - 21; AA (1956) cols. 36 - 39.

91. Compare the capital to Heilmeyer, Normalkapitelle, Pl. 27, 3.

92. Die Ruinen Pl. 61.

93. Ibid pp. 135 - 138 and 143 - 148.

94. Die Agora p. 72; AA (1956) cols. 72 73; Die Ruinen Pls. 21 and 22.

95. The excavators date the nymphaeum to the Antonine period, cf. Die Agora p. 89, but the architectural decor is identical to that of the marble courtyard and a recent careful study of the remains has led Susan Walker to conclude that the nymphaeum and courtyard are parts of the same project. I wish to thank Susan Walker for communicating her findings to me. For the fifth century development see Die Ruinen p. 13.

96. XI, 196 and a commentary on this passage by R. Martin in A. Festugière, Antioche païenne et chrétienne (Paris 1959) p. 39.

97. See Forschungen in Ephesos, II. Das Theater (Vienna 1912) fig. 112.

98. Unpublished. Found in the Necropolis Church dug by Dr. C. W. J. Eliot, 1975 - 1978.

99. G. Kapitän, "The Church Wreck off Marzameni," Archaeology 22 (1969) p. 127 (lower).

100. Th. Kraus and J. Röder, "Voruntersuchungen am Mons Claudianus im März 1961," AA 77 (1962) Pl. 10. The temple is dated by an inscription on the architrave.

101. H. C. Butler, Publications of the Princeton Archaeological Expedition to Syria II A (Leiden 1919) p. 323, Ill. 296 and Pl. XX.

102. L. Robert, "Inscriptions grecque de Side," Revue Philologique 3rd series 32 (1958) pp. 47 - 48, no. 70 and Die Agora pp. 95 - 96, no. 70.

103. AA (1956) col. 57.

104. See Die Agora Pl. II, fig. 7.

105. Normalkapitelle Pl. 26, nos. 1, 3 and 5.

106. Die Ruinen pp. 73 - 75.

107. Ibid p. 74.

108. G. E. Bean, op. cit. (n. 87), p. 6, no. 85.

109. Die Ruinen p. 11.

110. Die Agora pp. 38 - 39 and n. 46.

111. Die Ruinen p. 64 - 69 and fig. 48.

112. Normalkapitelle p. 104 and Pl. 39, 2.

113. Side 1947 p. 26.

114. Die Ruinen p. 24; Die Agora figs. 94 - 96, Pl. XXV, p. 63.

115. Roman Sculpture in Side (Ankara 1975) passim.

116. L. Robert, op. cit. (n. 102) pp. 24 - 25; Die Ruinen, p. 12; Die Agora pp. 80 - 82.

117. Die Ruinen p. 17.

118. Die Agora pp. 79 - 80, no. 45.

119. Die Agora p. 31.

120. For descriptions of the architecture along the main streets the following publications contain useful information: G. M. A. Hanfmann, "Excavations at Sardis, 1958," BASOR 154 (1959) pp. 5 - 35 (hereafter Sardis 1958); "Excavations at Sardis, 1959," BASOR 157 (1960) pp. 8 - 43 (hereafter Sardis 1959); "The Fourth Campaign at Sardis (1961)," BASOR 166 (1962) pp. 1 - 57 (hereafter Sardis 1961); " The Fifth Campaign at Sardis (1962)," BASOR 170 (1963) pp. 1 - 64 (hereafter Sardis 1962); G. M. A. Hanfmann and A. H. Detweiler, "From the Heights of Sardis," Archaeology 14 (1961) pp. 3 - 11 (hereafter Hanfmann and Detweiler); C. Foss, Byzantine and Turkish Sardis (Cambridge, Mass., London 1976) (hereafter Foss).

121. See Sardis 1958 pp. 14 - 16, Sardis 1959 p. 34, Sardis 1962, pp. 38 - 48.

122. It has been stated once that in the rebuilding after the earthquake of A.D. 17 the main avenue was colonnaded in the "modern fashion". See G. M. A. Hanfmann and J. C. Waldbaum, A Survey of Sardis and the Major Monuments Outside the City Walls (Cambridge, Mass., London 1975) p. 31, but there is nothing to substantiate this claim either on the ground or in the excavation reports.

123. Hanfmann and Detweiler, p. 8; Sardis 1961 p. 19; Sardis 1962 p. 18.

124. pp. 25-26.

125. The excavators claim throughout their reports that the stone used for the pavement is marble but on inspection it is difficult to ascertain whether it is a coarse-grained marble or limestone.

126. Sardis 1961 pp. 40 ff.

127. Sardis 1959 p. 33; Sardis 1961 p. 44; Sardis 1962 pp. 28 - 31. A small piece was also found in the south portico.

128. For the steps see Sardis 1958 pp. 16 - 18; Sardis 1962 pp. 49 - 50.

129. Sardis 1961 p. 40, n. 67.

130. See pp. 163-164.

131. Foss, Source 18, p. 115.

132. Loc. cit. Source 19.

133. There is no publication devoted to an analysis of any of the streets or to the street system at Ephesus. The scattered references in the literature will be referred to at the appropriate place in the text.

134. See pp. 41-42.

135. For the Hellenistic planning of the city see A. Bammer, "Zur Topographie und städtebaulichen Entwicklung von Ephesus," JÖAI 46 (1961-63) p. 145.

136. See E. Reisch, Forschungen in Ephesus III (Vienna 1923) pp. 76 - 88 under "Obere Osthalle".

137. For the head and console, see K. Weitzmann and M. E. Frazer, Age of Spirituality. Late Antique and Early Christian Art: Third to Seventh Century (Metropolitan Museum of Art 1977) p. 14, fig. 7, but note that it is identified as coming from the colonnaded street. In the case of Ephesus this is ambiguous and implies the Arkadiane. The head is dated to the third quarter of the fifth century.

138. For the architectural remains and epigraphic evidence see W. Alzinger, Die Stadt des siebenten Weltwunders. Die Wiederentdeckung von Ephesos (Vienna 1962) pp. 121 - 123.

139. See R. Heberdey and W. Wilberg, Forschungen in Ephesus I (Vienna 1906) p. 55.

140. This building program is summarized by H. Vetters in "Zum byzantinischen Ephesus," Jahrbuch der österreichischen byzantinischen Gesellschaft 15 (1966) pp. 273 - 279.

141. For the gate see J. Keil, Ephesus, ein Führer durch die Ruinenstätte und ihre Geschichte (Vienna 1957) p. 67, fig. 35.

142. The theatre is published in R. Heberdey, G. Niemann, W. Wilberg, Forschungen in Ephesus II. Das Theater in Ephesus (Vienna 1912).

143. Normalkapitelle Pl. 25, 1 and pp. 87 and 99.

144. See the capital from Soli-Pompeiopolis, Pl.64b and compare to W. Hoepfner, Herakleia-Pontike-Ereğli. Eine baugeschichtliche Untersuchung (Vienna 1966) Pl. 12, b and p. 84; J. W. Crowfoot, K. M. Kenyon, E. L. Sukenik, Samaria-Sebaste I. The Buildings at Samaria (London 1942) Pl. XLVIII, 2, Pl. LXXXIV, 4 - 6 and p. 36.

145. Normalkapitelle Pl. 27, 2.

146. Ibid Pl. 27, 1.

147. F. Miltner, Ephesos. Stadt der Artemis und der Johannes (Vienna 1958) p. 108, fig. 93.

148. W. Alzinger, op. cit. (n. 138) p. 65.

149. XIV,1,9.

150. op. cit. (n. 147) p. 106.

151. Keil, op. cit. (n. 141) p. 67 and Alzinger, op. cit. (n. 138) p. 69.

152. R. G. Goodchild, "Arae Philaenorum and Automalax," Libyan Studies. Select Papers of the late R. G. Goodchild (J. Reynolds, ed.) (London 1976) pp. 161 - 162.

153. E. von Mercklin, Antike Figuralkapitelle (Berlin 1962) Pl. 89, no. 688 and p. 139.

154. G. Kapitän, op. cit. (n. 99) p. 127 (lower).

155. F. Miltner, op. cit. (n. 147) pp. 108 - 109, figs. 94 and 95.

156. For the houses, see W. Jobst, Forschungen in Ephesos VIII/2 Romische Mosaiken aus Ephesos I. Die Hanghäuser des Embolos (Vienna 1977) pp. 18 - 35, Pls. 38 - 40; A. G. McKay, Houses, Villas and Palaces in the Roman World (Thames and Hudson 1975) pp. 212 - 214.

157. W. Alzinger, "Das Regierungsviertal," in H. Vetters (ed.), "Grabungen in Ephesos von 1960 - 1969 bzw 1970," JÖAI 50 (1972 - 1975) Beiblatt col. 231.

158. H. Vetters, "Ephesos," Öst. Arch. Inst. Grabungen 1971/72 (= JÖAI 50 (1972) 74 Grabungen 1971/2) p. 59, fig. 63.

159. F. Miltner, op. cit. (n. 147) pp. 76 - 77 for a reconstruction.

160. W. Alzinger, op. cit. (n. 138) pp. 135 - 137.

161. op. cit. (n. 147) p. 91.

162. Philostratus II, 23. In the probable area of the sacra via I was able to find only a small number of isolated stylobate blocks hidden in the tall grass. These blocks only might have come from the building in question.

CHAPTER VI

AN ARCHAEOLOGICAL SURVEY OF SITES IN ASIA MINOR: THE LIMITED USE OF COLONNADED STREETS WITHIN THE TOWNSCAPE

There are a few sites in Asia Minor in which one major thoroughfare within the townscape was singled out for monumental treatment. Especially in those cities with a defining cross-plan and sometimes in those with several streets having colonnades, the entire townscape is articulated by the decorated main streets. In cities with one colonnaded street, however, a different type of planning seems to be operative. The streets chosen for embellishment generally join together two major elements in the city such as an agora and harbour or an agora and temple. Thus, such colonnaded streets serve the needs of one of the motivating forces in Roman town-planning. They contribute to the creation of a unified architectural complex out of formerly independent public buildings.

SOLI-POMPEIOPOLIS[1] (Plan 45)

At the site of Soli-Pompeiopolis in the Roman province of Cilicia Pedias are the remains of one colonnaded street of simple plan and without apparent additional embellishment. No cross-streets enter it along its preserved length and the columns continue in an unbroken line along the well-preserved east side (Pls. 62b, 63b). The street ran in a straight line from the harbour to a point approximately 490 m. to the north-west. In

purpose, it appears to have been of the strictly secular variety, constructed in order to achieve a monumental and orderly appearance in what was, no doubt, the city centre since we are dealing with a maritime port city.

At the end of the last century, a few more of the northern columns must still have been standing along with other remains in this part of the city since a poorly built aqueduct is reported to lead to the area where the street begins.[2] All traces of this aqueduct have now disappeared as well as all indications of the actual end of the colonnades.

The limited length of the porticoes as reported by Heberdey and Wilhelm, however, makes clear that we are not here concerned with an extensive scheme of town-planning which involved the articulation of the whole city as, for example, at Gerasa, Palmyra, Side or Perge. The nature of the street undertaken suggests that it was designed to join and to bring into close architectural harmony two specific buildings or areas already in existence.

The element at the south end of the street is obvious. This was the harbour which gave to Soli its commercial importance.[3] At this end, the columns of the street apparently opened up to continue around an open piazza which would have facilitated the circulation of traffic in the busy port area.[4] The construction of modern motels and dependent structures at the edge of the beach has destroyed all trace of this piazza, but one column of the enveloping colonnade was still standing at the end of the last century when Heberdey and Wilhelm visited

the site.

The arrangement at this end of the street would have been comparable to the piazza constructed at the south end of the Transverse Colonnade at Palmyra at the point where the street terminated at the Damascus Gate.[5] The purpose here would likewise have been to ease congestion at a busy point. The continuation of the columns around the large oval piazza at the south end of the cardo at Gerasa can also be compared to the scheme at Soli.[6] Such arrangements seem to be primarily functional and to have been employed in commercial cities where a large volume of traffic could be expected at certain crucial spots.

The element in the townscape which formed the northern terminus of the colonnaded street cannot be identified with as much certainty. A modern road cuts across the ancient street just beside the last standing column and modern structures surrounded by cultivated land have completely obliterated all remains beyond this point. A likely possibility, however, is that the commercial agora of the city occupied this site. Vitruvius[7] recommends that in harbour cities, the agora should be located near the waterfront. Rhodes, Alexandria, Thasos, Delos, Halicarnassus, Cnidus and Miletus can be cited as practical illustrations of this precept of ancient town-planning. It would not be surprising to find the same practical considerations operative in the siting of the agora at Soli.[8] The piazza at the south end of the street would be a necessary part of the scheme if, indeed, goods were constantly moving between the har-

bour and the agora at the other end of the street.

Such a commercial function for this stretch of roadway would have made it the most frequented and dominent thoroughfare in the city; hence, the desire to impart to it a monumental appearance would have been natural in the architectural atmosphere of the second and third centuries. It must be remembered that commerce was almost always an essential feature behind the colonnades and, no doubt, shops on either side of this street supplemented the ones in the agora proper. The area behind the porticoes is entirely robbed out, however, so that nothing of their form and lay-out is recoverable without excavation.

At Miletus a comparable architectural scheme resulted in the second century when the addition of porticoes created what was, in effect, a colonnaded street from the Harbour Gateway in front of the Delphinion to the north entrance of the South Agora.[9] In both cases the same aesthetics of town-planning are operating. A limited but important stretch of road which terminated at the entrance to an agora received architectural embellishment which served to set it apart from the surroundings and at the same time to bring the elements at each end into a unified scheme.

Dates suggested for the construction of the colonnades have ranged from the time of Pompey to the Diocletianic period;[10] however, no detailed consideration has ever been given to the architectural remains in situ nor has the epigraphic and archi-

tectural evidence been studied together with the historical in order to develop as coherent an account as possible of the entire history of the main street here.

The various architectural elements which make up the street are especially noteworthy for their solid and careful construction. The homogeneous nature of the foundation and stylobate courses along the whole length of the existing portion of the street provide evidence for a single major period of construction.

The foundations consist of two courses of regularly squared blocks averaging 1.20 m. in length and 0.25 m. in height. The stylobate is carefully constructed of large blocks whose average dimensions are 1.20 x 1.36 x 0.47 m., not taking into account the plinth which is carved out of one block with the stylobate beneath. The sides of the stylobate blocks have carefully draughted edges (See Pl. 63a where the stylobate breaks off and the side face can be seen). On the front faces of the blocks at the bottom edge is a moulding consisting of two flat fasciae, the lower set back from the upper and the upper set back from the actual face of the block (Pl. 63a). The purpose of these recessed surfaces was, most likely, to accommodate corresponding projecting fasciae on the edges of the paving blocks of the roadway. Such an arrangement would provide a firmer bonding at the point where the pavement met the stylobate.

The pavement itself is entirely robbed out and, therefore, its level in relation to the stylobate cannot be proved with

absolute certainty. One piece of evidence, however, suggests that the pavement and stylobate were arranged so that there was one step up from the pavement level to the level of the portico. The recesses themselves at the bottom of the stylobate blocks cannot be taken as conclusive proof that the pavement was at a lower level than the portico since the paving stones could have been finished to fit against the stylobate with projections at either their top or bottom edge. The front faces of the stylobate blocks, however, are not provided with the draughted edges which appear on their side faces. This would seem to indicate that this surface was intended to be seen and one can conclude that the upper edges of the paving blocks fitted into the recessed fasciae at the bottom of the stylobate blocks.

Carved out of the same piece of stone as the stylobate block on which each stands is a rectangular plinth, 1.15 x 1.30 x 0.14 m. Such a form of construction is unusual. Set on the plinth, but carved together with the lowest element of the column shaft is the Attic-Ionic base (Fig. 35). The upper torus is very attenuated in relation to the other elements, being only 0.06 m. high while the scotia is 0.13 m. and the lower torus is 0.10 m. high.

No paving blocks were found in the area of the street and presumably these were carried away at some time for new construction in the vicinity. The same careful workmanship apparent in

the foundations and stylobate was probably lavished on the pavement as well; hence, the desirability of the blocks in later periods.

The roadway itself was only approximately 9.70 m. wide which is comparable to the main street at Antioch but narrower than many of the monumental colonnaded streets in the eastern Mediterranean.

The columns which are standing are all unfluted and consist of four large granite drums. All the columns exhibit entasis. In addition to the four large drums, the lowest portion of the column is made up of a short piece of shaft below which is a double ovolo moulding. These elements are carved in one piece with the Attic-Ionic bases.

Lying on the ground in the roadway in the southern portion of the street are several fluted column drums and one facetted drum (Pl. 62b). Some of these are visible in the foreground). It seems unlikely that these belong to any of the building periods represented in the extant portions of the street since the standing columns all exhibit the same form and constructional techniques and appear to belong to one plan. A good possibility is suggested by the description of the remains provided by a visitor to the site in the 1850's.[11] Barker saw six fluted columns "which stand out beyond the others" (i.e. those lining the street). The description leads one to think of the colonnade which continued beyond the south end of

the street and enveloped the oval piazza. The completely different technique applied to the columns would mean, in all probability, that the colonnade around the piazza did not form part of the same building program which saw the construction of the street. Possibly the piazza and its colonnade were constructed at the same time as the harbour installations mentioned above.

All the standing columns have the same pair of mouldings at the top of the shaft. They consist of a flat fillet surmounted by a large protruding ovolo (e.g. Pl. 62a). The intercolumniation on the axes is approximately 3.80 m. and the lower diameter is 1.0 m.

On the east side of the street 28 columns are still standing and on the west 4. Originally, however, the street must have had about 100 columns on each side in order to cover the area between the harbour and a point slightly further to the north of the preserved portion. Some columns, as is obvious from Pl. 63b , must at some time have been re-erected since, in a few cases, the columns are shorter.

Many of the columns still have, or originally had, consoles to carry statues. These are placed slightly less than half-way up the column on the side facing the street (Pls. 63a and 64a). Two different techniques were employed on these. On the four columns extant on the west side of the street, the consoles were carved separately and inserted into a large square cut-

ting made at the top of the second drum (Pl. 63a) where one can see such a console in place and the cutting for an identical console on an adjacent column). On some of the columns on the east side of the street, however, the console was carved in one piece with the large drum.

The purpose which these served was to carry a statue or bust of the person whose name appeared in the inscription carved on the front face of the console. Both emperors and important citizens were honoured in this way at Soli.[12]

A feature which strikes one immediately about the colonnades is the variety of Corinthian capitals to be found in such a short stretch of roadway. They divide naturally into four main groups although minor variations do occur within each group. Not all the capitals of each group appear together on adjacent columns. On the east side of the street, figured capitals and a wind-blown capital are scattered among the normal Corinthian capitals. No firm conclusions, however, can be drawn from the actual order in which the capitals now stand since some of them may have been placed in their present location at the same time as columns were re-erected.

As will emerge from the stylistic consideration of the four groups, three of the groups are contemporaneous while the fourth dates to a later period. The minor differences apparent in the carving of the leaves within Groups I, III and IV, which all date to the major phase of construction, lead to the conclusion that teams of artisans must have worked on the production

of each group. The fact that three different types of capital were carved at the same time may result as well from the employment of teams. Each team could have been carving the type they were most familiar with or themselves preferred, or possibly different teams were commissioned to execute a specific type.

Group I (Pls. 64c, 65a,b for the four capitals on the west side of the street. Pls. 65c, left and centre, 66c, 69b for capitals on the east side of the street from the southern, middle and northern portions respectively.)

The essential features of the acanthus leaves on all the capitals of Group I are identical. The acanthus leaves of the lower row are set fairly close together but they do not, in the majority of instances, actually touch. Where they do, the tips of the lowest folioles are joined so that a tier of two diamond-shaped voids is formed (noticeable in Pl. 65c). The leaves are approximately two-thirds broader at the bottom than at the top. The upper row of leaves take their point of departure from the top of the second foliole of the lower leaves and this row extends approximately three-quarters of the way up the bell. The small space left between the leaves of the lower row means that the bottom portion of the leaves in the upper row is not depicted. Only half of the lowest folioles of the upper leaves appears. Nevertheless it must be emphasized that the leaves are still treated as entirely separate entities and are not

joined to each other continuously around the bell in the fashion one finds in the Late Roman - Early Byzantine period when the individual leaves become of secondary importance and the over-all pattern which they create becomes the dominant feature.

Each leaf is divided into seven sharp-toothed folioles. There is a tendency for the leaves of this group to have a spindly appearance because the voids separating the individual folioles are carried deeply into the body of the leaf, leaving only a narrow vertical central portion, with the result that each leaf gives the impression of a stem with seven small leaves attached rather than one large leaf. This characteristic is most exaggerated in a capital of Group I situated in the central portion of the east side (Pl. 67b). The particularly spiky and unnatural appearance of the leaves may well be merely the result of a different and less practised hand carving this capital. The question, however, is one of technique rather than basic style and the capital is to be dated to the same period as the other capitals in the group.[13]

The other elements of the capital occupy approximately the upper one-quarter of the bell. Only the very top of the caules is visible between the leaves of the upper row. The acanthus calyx is large with a fair amount of closed height before the inner and outer leaves separate and spread out horizontally. A tier of one large and one small void is created

where the inner and outer leaves of the calyx are joined together. The inside leaf is actually quite small in relation to the lush outer leaf which spreads out to the corner of the abacus where it supports the spiral of the volute.

The helices and volutes, because of the large amount of space occupied by the closed acanthus calyx, are restricted to a fairly small space at the top of the bell, although the stems of both are able to achieve a downward turn before they actually join at the top of the calyx. Neither helices nor volutes protrude on to the abacus. The helices are small and attenuated in relation to the size of the outer volutes and they adhere completely to the bell. They are, however, still carved in fairly high relief so that they retain some impression of vigour and vitality. The volutes still project boldly out to the angles of the abacus. The spirals of both the helices and volutes execute one complete revolution. The helices and volutes are moulded along their entire length so that the upper portion projects.

The central fleuron is large and partially closed with at least half its height placed above the level of the abacus. The abacus itself is curved and each face is divided into two horizontal panels, the lower taking up two-thirds of the total height of the abacus. These panels are variously treated. In most cases the lower panel is decorated with fluting while the upper is carved with either egg-and-dart or a twisted rope pattern (e.g. Pls. 65a-c, 66c). Occasionally the abacus is simply

divided by a moulding and left undecorated.

The over-all impression of these capitals is lively and naturalistic although the repetitive pattern of voids and the flat helices herald trends which culminated in the stylized Corinthian capitals of the Byzantine period.

Lying on the ground in the southern section of the street is a capital which is comparable in all its essential features with the other capitals of Group I (Pl. 64b). It exhibits, however, one minor variation. Beneath the helices is a continuous semicircular band in relief which appears to be a continuation and simplification of the inner leaves of the acanthus calyx.

Stylistically the capitals of Group I exhibit the closest similarities with capitals dating from the last decades of the second century and the early third century. Perhaps the best parallel for all the elements on the Soli examples is the capital from the temple of Tyche at Sunamen in the Hauran.[14] The temple is dated by a dedicatory inscription to A.D. 191. The most obvious points of comparison are the spindly acanthus leaves which result from the depth to which the voids between the folioles are carried into the body of the leaf and more importantly, the relative positions of all the elements on the bell. The space allotted to the leaves and the closed acanthus calyx results in the helices and volutes being crowded into a small portion at the top of the bell at the same time as the caules are almost completely obscured. In style and execution

the capitals from Soli and Sunamen are identical.

The stylistic characteristics exhibited by the Soli capitals are also apparent in the capitals from the portico of the Temple of Artemis at Gerasa. The temple complex was constructed between A.D. 150 and 180.[15] The abacus of the example from Gerasa is divided into two horizontal panels of which the lower is decorated with flutes and the upper with egg-and-dart. The arrangement of the helices and volutes exhibits the same placement with the small helices flat against the bell while the volutes project strongly to the corners of the abacus. The amount of space allotted to these elements is on both capitals the same. Although they occupy approximately only one-quarter of the bell, the stems of the helices and volutes are able to achieve a small amount of downward movement before they join at the top of the acanthus calyx. The leaf form is the same with each leaf having seven folioles each separated by a pair of oval and triangular voids. The leaves are completely separate entities which do not touch although they are placed quite closely together. The leaves of the upper row are depicted for only a portion of their height with the leaf really shown from the top edge of its lowest folioles. In some cases, however, the central rib of the leaf is indicated in the space between the lower leaves, an arrangement which is identical to that of the Group I capitals at Soli.

On the basis of stylistic considerations the capitals of

Group I cannot be any earlier than the second half of the second century. The arrangement of the leaves and the upper elements, the obscured caules, and the relationships between the individual leaves preclude an earlier date.[16] The closest parallels come from the Severan period and probably the best parallel is the dated capital from the temple of Sunamên in the Hauran which belongs to the last decade of the second century. Hence, the capitals from Soli can be assigned to approximately the last years of the second century or the beginning of the third century.

Group II (Pls. 67a,c, 68b, 69a)

All the extant capitals of Group II are found in the central section on the east side of the street. They are not, however, all together since capitals of Groups I and III as well as the wind-blown capital of Group IV are interspersed among them.

In many respects elements of the capitals in this group are similar to those on the capitals of Group I. All the abaci are divided by a moulding into two horizontal panels, but these are of equal height and unlike the abaci of Group I, are invariably left plain. The central fleuron is comparable to that of Group I in that it consists of a large, partially closed flower with a portion at the top projecting above the top surface of the abacus. The attenuated helices are flat against the kalathos. Their small size and low relief deprives them

completely of any strong or vigorous form. The volutes project out from the kalathos to the corners of the abacus and the spiral on these traces only one complete revolution. Both these elements occupy only a small space approximating one-quarter of the height of the bell at the top. The stems of the helices and volutes, however, are able to achieve a short downward turn before their bases join at the top of the acanthus calyx. The acanthus calyx is full and leafy with the inner leaf, however, much smaller than the outer. There is a fair amount of vertical height before the calyx opens and the point of junction of the inner and outer leaves is marked in each case by a tier of two large voids.

It is from the form of the leaves and the relationships resulting from their arrangement that the basic differences between the capitals of Groups I and II arise. Most obviously these leaves each have only five folioles instead of the seven found on the leaves of Group I. Each foliole, therefore, is correspondingly larger and the leaf, as a whole, lacks the jagged and spiky appearance apparent in Group I. The leaves are twice as broad at the bottom as at the top.

The leaves of the bottom row are placed so closely together that the edges of adjacent leaves are contiguous and tiers of three geometrically shaped voids are formed between the points of contact. Hence, the leaves no longer stand as independent entities, but are elements within an over-all scheme of decoration covering the lower three-quarters of the bell. One can

see in this arrangement the beginnings of the process which culminated in the Byzantine period with capitals whose bells are covered by an interlocking stylized pattern in which the visual impact of individual leaves is almost eradicated by the dominance of the over-all pattern. Other elements of the leaf arrangement, however, still belong to the Classical variety of capital of the second and third centuries. The leaves of the upper row take their point of departure from the tops or the middle of the second foliole. The individual folioles of each leaf are separated from each other by a series of voids. In each case the lowest foliole is separated from the one above by two voids, the inner one an elongated oval and the outer one triangular. The foliole at the apex of each leaf is separated from the one below it on each side by a single large oval void. This scheme is identical to that found on capitals of Group I.

One capital in this group has a slight variation in the treatment of the helices which sets it apart from the other capitals in the group (Pls.67a, right, 68b). From the top of the spiral of the helices, another spiral curves upwards and rests on a projection at the level of the abacus. The capital is too badly damaged to ascertain if this arrangement was found on all four faces. In all other respects this capital is identical with the others from Group II.

The general impression created by the leaves is more static and less realistic than the impression of the leaves in

Group I. This results from the fact that almost the entire leaf adheres closely to the bell, although the leaves still are in relief. The lower portion, however, is not carved in high relief and only a small portion of the topmost foliole falls forward to suggest movement on the bell. Also contributing to the static appearance is the regularly indented outline of each foliole. The depiction of individual differences in the leaves, which results in a greater degree of naturalism, is not stressed on these capitals. In some instances (e.g. Pl. in Group II, the spirals of the helices do not trace even one complete circle. This rudimentary rendering is simply the stonemason's concession to the traditional elements of a Corinthian capital. The impression created by these characteristics distinguishes the capitals of Group II from those of Group I as much as the more specific points of difference such as the five folioles per leaf, and suggests a later date for the production of the capitals in this group.

A capital which exhibits the same stylistic characteristics and creates a similar impression of static elements is found in the museum at Split and comes originally from Manastirine.[17] The date of the capital is Diocletianic. Also very close to the Soli capitals of Group II is a capital from Salona which dates to the beginning of the fourth century.[18] The elements on the upper quarter of the bell have been greatly simplified to mere vestiges of their original form, but the leaves show marked similarities to the capitals from Soli. The greater simplification

of the example from Salona probably indicates a slightly later date. Another example from Salona which dates to the end of the third or beginning of the fourth century[19] also provides a good parallel for the capitals from Soli. Especially close is the arrangement of the leaves in the lower row. The tips of the second foliole of adjacent leaves are contiguous and a diamond-shaped void is formed between each two points of contact. Also to be compared is the attenuated nature of the helices with their open spirals. Two capitals from Rome dated to around the end of the third century are also very similar.[20]

A mid-fourth century example from Salona exhibits still more stiff and stylized characteristics and lacks entirely an acanthus calyx. Neither the helices nor the volutes stand free of the bell.[21] It is not likely that the capitals of Group II from Soli are as late as this capital since their elements are not as yet so far removed from the naturalistic forms of the traditional Corinthian capital.

A date in the second half of the third century,probably towards the end of this time span rather than towards the beginning, is the most plausible for the capitals of Group II.

Group III The Figured Capitals (Pls. 65c,right, 66a,b, 67d, 68a,c)

At random intervals along the east side of the street are six capitals which have figures of various types replacing some

elements of an ordinary Corinthian capital.[22] Although many examples of figured capitals from the Greek, Hellenistic and Roman periods are in existence,[23] I know of no capitals which provide very close parallels for those at Soli-Pompeiopolis. Moreover, there is no other extant instance of figured capitals situated along a colonnaded street. Both in details of style and in their position in an architectural scheme, these capitals remain unique in the Roman world.

Capital 1 (Pls. 65c, 66a

The southernmost capital has a small bust of a divinity(?) in place of the central fleuron and helices on each side. The figures are carved so that most of the head is on the abacus and only the topmost portion of the body to just below the shoulders is depicted on the bell. The shoulders entirely replace the helices although there is a large portion of space left around the figure and a part of the former could still have been rendered. The busts in no way interfere with the upper row of acanthus leaves.

The identification of the figures with specific divinities cannot be made with certainty since no definite attributes are visible. Von Mercklin[24] sees the male figure with thick beard and curly hair as Jupiter Serapis wearing a modius (Pl.65c the capital on the right and Pl.66a, the head on the right). On the top of this head one can still make out a badly damaged box-shaped object which may well be a modius and if so, the

identification with Jupiter Serapis is plausible. The other heads are more uncertain. The figure on the left in Pl.66a is a much worn head which appears to be female. This is possibly von Mercklin's matronly goddess tentatively identified as Hera.[25] The other two busts on the capital are now too badly damaged to be recognizable.[26]

Although the actual style of the figures finds no ready parallels, the form exhibited by this capital was fairly common. It is a typical Corinthian capital with two rows of acanthus leaves talking up the lower two-thirds of the bell, projecting volutes and a curved abacus. Only the helices and central fleuron have been replaced. Such an arrangement can be seen capitals of the first to fourth centuries from both east and west.[27] The general form and outline of the acanthus leaves are the same as on the capitals of Group I. The relative positions of the elements and the form of the volutes which project from the kalathos and have a heavy spiral which traces only one complete revolution all indicate that this capital belongs to the same building phase as the capitals of Group I. As in the case of Group I, the abacus is divided into panels by a horizontal moulding, but these bands on the capitals of Group III are invariably left plain.

Small details in the execution of the leaves suggest that this capital, although carved at the same time as Group I, was done by a less skilled hand. To be noted especially are the

lack of precision and general sloppiness in the carving of some of the voids between the folioles and the blurred outlines of the serrated edge of some folioles.

Despite the fact that the figures are badly worn, the style of these can be seen to be rough and unsophisticated. For example, the shoulders of the figure on the left in Pl. are merely blocked out in low relief on the kalathos. No articulation of body parts is apparent for either this figure or for the figure identified as Jupiter Serapis.

Capital 2 (Pl.66b)

The next capital in the series bearing figures has only one head surviving. This is a female, carved in high relief and set almost entirely on the abacus. The very good style of the carving is in marked contrast to that on all of the other capitals in Group III. The effect is, of course, heightened by its almost perfect state of preservation. The execution of the leaves as well, although in the same general style as Groups I and III, is far superior to that of the other capitals on the street. This capital is not mentioned by either von Mercklin or by Paribeni and Romanelli. In addition, the capital appears to be actually slightly too large for the column on which it now rests. It is possible, therefore, that it has been brought from somewhere else and re-erected in its present location some time after 1914 when Paribeni and Romanelli visited the site and recorded the figured capitals they found. A-

nother suggestion is that the modern authors missed it and that it is an ancient reuse.

The head may well represent a theatre mask since the facial features appear to be intentionally unrealistic with flat planes and a slightly open mouth. Also arguing for this identification is the fact that absolutely nothing below the chin is depicted. The thick head of tightly waved hair is suggestive of a wig. There is, however, a certain ambiguity about this head which precludes a firm identification since it does lack the exaggerated characteristics which mark certainly identified masks.

As von Mercklin points out,[28] capitals which have theatre masks as part of their decoration tend, naturally enough, to come from theatre buildings.[29] If one wishes to see in this figure such a mask, then the theatre at Soli-Pompeiopolis may well have been its original setting. That it was originally carved for the colonnades of the street seems out of the question both because of its superior style and its dimensions.

Capitals 3 and 4 (Pls. 67d, 68c)

Further to the north on the east side of the street are two adjacent capitals with similar figured decoration of a type which differs from the first two capitals discussed. Half of the figure is depicted in each case and consequently, much more room on the capital is taken up by this element. The heads

begin on the kalathos and extend to a point above the top of the abacus. The body of the figure replaces not only the helices, but the inside leaf of each acanthus calyx as well as the acanthus leaves of the top row in the centre of each side. The top row of leaves is depicted only beneath the corner volutes.

Capital 3 (Pl. 67d, left) is not mentioned by von Mercklin or Paribeni and Romanelli. Unlike the capital with the possible theatre mask, however, this capital exhibits the same style and workmanship as the others from the street and it is of the correct size to belong to the order of the colonnades. It must either have been found and re-erected after 1914 or it may well have been missed by the early visitors to the site.

Only one figure, that seen in Pl. 67d is still recognizable although it is very badly damaged and cannot be identified as any particular divinity. The head is entirely gone but the torso indicates that the figure represented is male and wearing a cloak which is thrown loosely around his neck. In style, the figure is comparable to the busts on Capital 1. The body is crudely blocked out with little attempt at a natural articulation of body parts. The relief on this capital is, however, higher than on Capital 1.

Three of the four large figures on Capital 4 survive. They have been identified by von Mercklin[30] as a helmeted head, possibly Ares, a bearded Hercules with his club and a female wearing a turreted crown who is probably the Tyche of Soli. The figure

facing the front in Pl.67d and on the right in Pl.68c is probably that of the helmeted Ares. The head is now completely destroyed but the crude outline of a helmet passing aroung the head and under the chin can still be made out. On either side of his head very rudimentary and tiny helices have been depicted in low relief. In profile in Pl. 67d and on the left in Pl.68c is the bearded head of Hercules. The identification of this figure is made quite certain by the traces of a large club visible above his left shoulder.

For the actual arrangement of the figured elements in relation to the leaves as well as for the style of the relief there are no close parallels. Generally a half-figure either is placed above two complete rows of acanthus leaves which then occupy less than the customary two-thirds of the kalathos[31] or the upper row of acanthus leaves disappears entirely in order to make room for the half-figure.[32] On these two capitals, a compromise solution was employed in which the two rows of acanthus leaves retain their usual height with the leaves of the upper row removed entirely only where necessary to accommodate the figure which appears to rest on a plain stalk which can be seen descending in the space between the leaves of the lower row.

The figures are badly worn and, therefore, details such as the facial features no longer can be made out. The outline of the figures, however, is heavy and lumpy exhibiting no sophistication in the plastic rendering of the human form. The

torso, although in high relief in each case, is merely blocked out and barely articulated. The style is comparable to that of Capital 1.

The acanthus leaves of Capital 4 are the same in form and detail as the leaves of Group I. The pattern of voids and the spiky appearance of the leaves as a whole, due to the number and arrangement of the folioles, is exactly similar. In the case of Capital 3, however, a slightly different form is exhibited by the leaves. Their arrangement and relationship to each other is the same as for the capitals in Group I and the others in Group III. A small space is left between adjacent leaves and nowhere are the tips of the folioles joined. The leaves of the upper row take their point of departure from the top of the second foliole of the lower leaves. It is in the form itself of the leaves that the differences lie. Each leaf is divided into five folioles instead of seven with the result that the individual folioles are correspondingly larger and the leaf has a less fragmented appearance. The spaces dividing the folioles are not carried as deeply into the body of the leaf. Hence, the central portion is broader and the leaf does not give the impression of a stem to which small leaves are attached, an effect created by many of the leaves in Groups I and III when the divisions are particularly exaggerated. Instead of a repeated pattern of two voids separating the folioles, there is one oval void between each pair. Except for the fact that the leaves each have five folioles this capital has none of the

other characteristics which set the capitals of Group II apart and mark them out as later than those of Groups I and III.

A good parallel for these leaves is the Composite capital from the East Gymnasium at Ephesus which dates to around the middle of the second century.[33] The form of the leaves on the Ephesian capital is influenced by the Aphrodisian school of carving.[34] The placement of the elements on the capital from Soli indicates a date in the second half of the second century rather than the middle years of the century and one can assume that this capital was carved at the same time as the others in Groups I and III. The differences apparent in the details, however, are no doubt simply the result of a different hand executing the carving.

Capital 5 (Pl. 68a) exhibits the most ambitious scheme of figured decoration to be seen at Soli. In place of the helices and central fleuron on two sides is the complete form of a horse and replacing two of the the volutes were full-length figures of a nude male of which only one now survives. The horse, facing left, is placed in the centre of the top portion of the kalathos with its head carried up to the level of the abacus. It is, however, so positioned that it does not interfere in any way with the upper row of acanthus leaves. Holding the reins of the horse is the nude male figure in frontal position. In his left hand is a staff and around his neck the folds of a mantle. This figure, because of his close association with a horse, is probably to be identified as a Dioscuros.[35] The

worship of the Dioscuri as the protectors of travellers on the sea would make their depiction on a capital set on the road leading from the harbour appropriate. On the third side is a roebuck and at the angle a female figure holding a torch in her left hand. She is identified by von Mercklin[36] as possibly Diana Lucifera.

The arrangement in which human figures replace the volutes of a Corinthian capital is a fairly common one in the Roman period.[37] It is worthy of note that all the examples cited are capitals whose bells are almost completely covered by human figures with the vegetation on the capital relegated to a distinctly secondary role. The capitals from Soli, on the other hand, are divided equally into zones of vegetal and figured decoration.

Except for the fact that the figures are more fully treated on this capital, the style in which they were carved differs in no way from Capitals 1, 3 and 4. The figures are rendered in a rough and simplistic manner lacking any plastic quality. For example, the body of the horse is depicted as an outline in low relief on the kalathos without any articulation of muscles or body parts. The same can be said of the human figures which are heavy and graceless.

When one considers the elements other than the figured decoration on Capital 5, one finds that the zone of acanthus leaves, the remaining portion of the acanthus calyx and the

abacus all exhibit close stylistic affinities with Capitals 1, 3 and 4 of Group III and with the capitals of Group I. To be noted in particular is the pointed form of the individual lobes of each foliole which gives to the leaves as a whole a spiky appearance. The spacing of the leaves of the lower row is the same with a small space left between adjacent leaves and the leaves of the upper row begin at the top of the second foliole of the lower leaves. Individual folioles are separated by a pair of voids of oval and triangular form which are repeated for all the divisions. In all respects, this capital can be seen to belong to the same period of production as the capitals of Groups I and III.

Capital 6 (P. Verzone, "Soli-Pompeiopolis. Citta Ellenistiche e Romane dell'Asia Minore," Palladio n.s. 7(1957) p. 64, fig. 21)

The last of the figured capitals was carved with a scheme of decoration which differs from the preceding in that no human figures are represented. Again, because of its particular arrangement the capital from Soli is unique. Beneath the angles of the abacus are eagles in place of the volutes and the helices are replaced by figures of lions. As before, the zone of acanthus leaves is in no way disturbed by the figures of the lions which are set at the top of the kalathos.

This particular combination of figures and their arrangement in conjunction with the traditional elements of a Corinthian capital find no specific parallels in the Roman period.

Eagles were certainly a common feature on Roman capitals, largely due to their symbolic value, but they generally occupy the position of the helices and central fleuron rather than the volutes.[38] Nowhere else are the eagles combined with lions on one capital, nor are lions depicted in place of the helices and central fleuron. For the arrangement of eagles at the corners combined with what had become the standard elements on a Corinthian capital, one must go to the Early Byzantine period.[39] On these capitals eagles and leaves are combined in a manner reminiscent of the capital from Soli.

The arrangement and style of the leaves and abacus are exactly similar to the other capitals which form a homogeneous group on the basis of their characteristics and this capital, too, belongs to the main phase of construction at the end of the second or beginning of the third century.

It is difficult to postulate with any certainty the tradition to which the capitals of Group III belong since they are quite unlike other figured capitals known from the Roman world. One tentative suggestion may be offered. At two sites in Turkey figured capitals, which in some basic respects are comparable to the examples from Soli, are being found in current excavations. The first group comes from the Marble Court in the Gymnasium complex at Sardis and dates to the Severan phase of construction in this area which is recorded by a dedicatory inscription.[40] On these capitals from Sardis, we are dealing with craftsmanship of a much higher order than is found

on the examples from Soli with the exception of the capital with the possible theatre mask. What is comparable is the position of the figured portion at the very top of the bell and on the abacus so that none of the other elements are interfered with. The heads replace the central fleuron only or the central fleuron and the helices. In form these heads especially recall the capital with theatre mask since they are rendered in high relief to just below the level of the chin with most of the head actually on the abacus rather than on the kalathos.

At Aphrodisias also the current American excavations are turning up figured capitals of the Roman period with frequency.[41] These figures depict divinities such as Aphrodite, Apollo and Eros. In the depot at Hierapolis-Pamukkale there are unpublished capitals from the basilical building which is dated to the third century by the excavator.[42] They are similar to the capitals from Aphrodisias.

In the second half of the second century and throughout the Severan period the most influential school of carving in Asia Minor in the field of architectural decoration such as Corinthian capitals was that centered at Aphrodisias.[43] Since figured capitals in this very period seem to have become popular on sites in the east and particularly on sites where Aphrodisian work is attested,[44] it may be possible to see in the examples from Soli capitals carved under this influence. The examples from this site were not, however, carved by the masters of the Aphrodisian school since the technical skill exhibited

at Soli is of such a poor standard.

Group IV Wind-blown Capital (Pl.66c)

In the central portion on the east side of the street is the only example at Soli of a variety of capital with slanted acanthus leaves which give the impression of being blown by a wind. Although only one example survives, it is likely that more of this type were carved for the columns of the street since all the other groups are made up of several examples.

The capital is a normal Corinthian in all respects except for the inclination of the acanthus. The two rows of leaves take up slightly more than two-thirds of the bell. The leaves, although projecting for their entire height, are nevertheless in fairly low relief against the bell except for the top of the foliole which falls forward. The leaves are all made up of seven folioles, each of which has seven sharply pointed lobes. This arrangement combined with the divisions between the folioles being carried deeply into the body of the leaf imparts the spindly quality to the acanthus which has already been noted on the capitals of Groups I and III. Each pair of folioles is separated by a systematic pattern of voids, the inner an elongated oval and the outer triangular. The leaves of the upper row take as their point of departure the top of the second foliole of the lower leaves. The close spacing of the lower leaves means that only approximately one-half of the upper

leaves is depicted. The lower leaves, however, are nowhere actually joined together at their tips.

The upper third of the capital is so badly damaged that it is difficult to make out the details of this part. The acanthus calyx does appear to be closed for approximately half of the upper third of the bell before it opens out horizontally. The helices are relatively small and carved in very low relief flat against the abacus. Their spirals are depicted in a rudimentary open fashion. The abacus is divided into two horizontal bands by a simple moulding and the bands are left undecorated.

The wind-blown effect was achieved by carving all the leaves for their entire height leaning to the left on the bell at approximately a forty-five degree angle. This capital exhibits the simplest method of creating the wind-blown effect since there is no torsion or marked projection of the leaves from the kalathos. The type begins to appear in the Roman period, especially at Aphrodisian-influenced Lepcis Magna and Cyrene in Severan times,[45] but it does not become common until the Byzantine period when the various forms with contorted and twisted leaves were developed.[46] In the Roman period capitals of this type display the simple arrangement seen on the example from Soli.[47]

Stylistically this capital is related closely to the capitals of Groups I and III and is to be dated to the same period. This date accords well with the evidence for Roman wind-blown capitals from other parts of the Empire.

The only portion of the entablature to survive from the colonnaded street is a cornice block lying in the brush at approximately the mid-point of the street (Pl. 69c).[48] The cornice consists of a cyma reversa above which are rectangular consoles. The acanthus leaf carved on the soffit of the surviving console exhibits characteristics comparable to those of the acanthus leaves on the capitals of Groups I and III. The leaf is somewhat stiff and stylized with the usual pair of voids separating the folioles. There is no decoration between the consoles on the underside of the corona. Running along the top of the console course is an ovolo carved with egg-and-dart. This ovolo band is continuous around the three faces of the console. Above the console course the corona consists of a broad lesbian cyma surmounted by a band of bead-and-reel. The sima, consisting of a large cyma recta, is decorated with deeply-cut but stiff and stylized palmettes. Above this is a flat fillet.

The carving on this cornice provides evidence for the dating of the block. The egg-and-dart on the moulding above the console course is typical of the Severan period.[49] Especially characteristic is the sheath which is not continuous around the egg at the bottom. It breaks off on each side. The shape of the eggs, which are oval with a tendency to narrow markedly toward the bottom, also points to the Severan period. A good example of the stiff style of carving seen on this block comes from the cornice above the doorway in the temple at Damascus.[50] The

pattern on the cyma of the corona is of the broad open variety characteristic of the Severan period consisting of a half-circle around a simplified dart.[51]

From its style the cornice block seems to belong to the major building phase of the street at the end of the second or the beginning of the third century and it must have been carved at the same time as the capitals of Groups I, III and IV.

Without an architrave block or the back wall of the portico preserved to the height necessary for cuttings to survive, the roofing of the colonnades must remain conjectural. In the absence of any evidence one can only say that the colonnade was probably covered by a horizontal ceiling depending upon beams set in cuttings on the back side of the architrave blocks and on the back wall of the portico. Above this the usual arrangement saw a fairly steeply pitched roof which facilitated the run-off of rain-water. The roof-beams would be set in to cuttings on the back side of the cornice and into the front face of the back wall of the portico at a higher level than the ceiling beams.[52]

There is one piece of evidence which suggests that the entablature here had a carved frieze in the manner of nearby Diocaesareia. Lying on the ground approximately half-way along the street is a very small piece from the frieze which presumably belonged to the order of the colonnades. Discernible on it is a portion of a human figure but not enough remains to enable one to draw any conclusions about the style or date of the work.

A careful examination of all the architectural remains, both belonging to the street as it stands and lying on the ground in the area, has revealed no piece which can be securely dated before the second half of the second century. The fluted and facetted drums, one suspects, may well be earlier than the second century, but they cannot be assigned with certainty to any particular period. Since the roadway itself has been entirely robbed for its paving stones and the levels disturbed in most places as far down as the foundation courses, the evidence here for any earlier phases of the street has been destroyed.[53]

Epigraphic evidence from the street spans a wide period. A console from the colonnades, now lost, is recorded by Heberdey and Wilhelm:[54]

[Αὐτοκρά]τορα
[καισαρα θε]οῦ υἱὸν
ὁ δῆμος

This console was found in situ by Heberdey and Wilhelm on the eighth column north of the harbour on the east side of the street. This portion of the colonnade has now disappeared under the modern construction in the area.

The inscription names Augustus and especially to be noted is the absence of the title Σεβαστός which would suggest that the inscription dates to the period before 27 B.C.

That this is indeed the case and is not merely a mistake resulting from ignorance of Imperial titles on the part of the stone cutter seems more certain when one considers another inscription on the console of the southernmost column on the west side of the street.[55] This column and console have also now

disappeared but the following inscription was reported:

....o....
Γαΐσαρος
υἱὸν Σεβαστ
<στ>ὸν
ο δῆμος

It would seem, therefore, that another statue was put up to Augustus after his assumption of the title Σεβαστός in 27 B. C.

Th. Wiegand points out quite rightly that the capitals from the street at Soli are much later than the Augustan period indicated in the inscriptions.[56] He dates them in a general way to the second century. In order to explain the discrepancy he suggests that these inscriptions were cut on the consoles actually at the time that the street was built in the second century and that they were copies of existing inscriptions which for one reason or another were to be placed in this new location along with the statues to which the original inscriptions had referred.[57] An example of this sort of recarving of an earlier inscription on to a new console is known from the portico of the Temple of Bel at Palmyra.[58]

It is likely that the original statues and inscriptions to Augustus were always somewhere in the vicinity of the street. Tradition would dictate that these should remain even after the street received its architectural embellishment in the second century. The easiest solution would be, of course, to bring these old dedications into visual harmony with the new ones being erected on the consoles of the street.

On a console of the colonnaded street there was also an inscription in honour of Hadrian:[59]

Αὐτοκράτορα
Καίσαρα Ἀ-
δρίανον [Σεβαστ]όν

Like those to Augustus this inscription or its original is earlier than the street in the form which has survived.

The majority of the architectural remains appear to date to one period of construction and to constitute a major building program which involved the entire street. In the absence of remains which can be dated securely to any earlier period, the first phase of the colonnaded street as a complete architectural complex dates from the end of the second or beginning of the third century. At this time columns, all made up of four large unfluted drums, were erected on both sides of the street and capitals of the Corinthian order, but of different types, were carved for the colonnades. None of the capitals in Groups I, III and IV can be earlier on stylistic grounds than the closing years of the second century. The Attic-Ionic bases and the surviving cornice block from the entablature also belong to this period. The foundations and stylobate with the plinths for the Attic-Ionic bases carved in one piece with the stylobate blocks also exhibit only one building phase for the length of the street. The fact that the plinths are exactly the proper size for the order of the columns and are of the same material argues strongly against the construction of these lower elements for any earlier building phase. The homogeneous

nature of all the architectural remains indicates that from the foundations to the entablature the colonnaded street dates from the one building period.

There is a console from the street recorded by L. Duchesne, which is dedicated to Commodus.[60] In the light of architectural evidence, it is entirely possible that this console provides an indication of the period in which the construction was actually undertaken since no dedication to Commodus is likely to have occurred after his death. Unfortunately all that could be recovered of the text was the name and the title αὐτοκράτωρ so that the inscription cannot be assigned to any period in Commodus's reign. Nevertheless, since the capitals of Groups I, III and IV find their closest parallels with some which can be dated from inscriptions to the last decade of the second century, it is possible that the street was begun as early as the latter years of Commodus's reign.

The existence of the capitals of Group II which, on stylistic grounds, date to sometime at the end of the third century indicates that some reconstruction had become necessary less than a century after the major building period of the street. The circumstances which brought about the damage to the street or to a portion of it cannot, of course, now be identified with certainty but it is possible that some buildings in the city may have suffered when the Persians besieged it after the defeat of Valerian in A.D. 260.[61] However the damage occurred, it could not have been very extensive since only a few

of the second century capitals had to be replaced and none of the other elements which now exist give any indication of belonging to a later reconstruction.

The fact that the architecture of the colonnaded street has been disturbed and robbed out except for the more massive elements means that almost nothing beyond the major building phase can be recovered. There is some evidence to show that it shared the fate of other colonnaded streets in a later period with the shops behind and possibly the porticoes as well still being utilized for commercial purposes. Carved on the lowest drums of the columns sometime in the Early Byzantine period are what appear to be advertisements.[62]

The first is that of a shopkeeper, presumably a gardener who sold his produce in his shop in the colonnade:[63]

Κηπούρ[ου ὁ τ]όπος

Another reads:[64]

Λαναρ[ίων]
(ιος)

The tradesman in this inscription would be a worker in wool. A cobbler or tailor seems to be identified by:[65]

ὑπορ[αφός]

and an embroiderer by:[66]

πλουμα[ρίων]
(ριος)

These tradesmen may well have set up stalls in the colonnades themselves rather than in the shops behind since, in the Early Byzantine period, there seems to have been a tendency to

encroach upon the available space in the porticoes.

There is another possible interpretation for these inscriptions carved on the drums. At Gerasa similar notices carved on some columns of the cardo name both individuals and groups of tradesmen or professional men.[67] These have been dated to the Early Byzantine period on the basis of letter style and nomenclature and they have been interpreted as signifying the people who paid for the re-erection of the column on which their names appear. In cases where personal names are carved on a column in this way, such an interpretation seems the more likely since the name alone does not seem to be an adequate advertisement for a shop. None of the columns in question at Soli, however, differ in any way from the others in material or construction so that the erection of a new column to replace one of the second century seems out of the question. At the most, the old columns may have been re-erected, but since these inscriptions all deal with humble craftsmen and merchants one suspects that they are the ancient equivalent of a sign in a shop window or above the door.

An inscription carved on a column shaft records some form of embellishment to the colonnades at an unknown period after the construction of the street.[68] The work was paid for by a citizen whose name is not recoverable.

Ἐπὶ Ἀλεξανδρου τοῦ...
τοῦ δὶς ἄρχοντος
....καὶ γραμματεὺς καὶ δὶς ἄρχων ὑπὲρ σωτηρίας τοῦ οἴκου αὐτοῦ [εὐξά]μενος ἐποίησε τὸν θρόνον σὺν
τῷ κοφίνῳ καὶ ταῖς ἀναβάθραις
τ]αῖς [σ τοῖ]καῖς μο[νος] ἐκ τῶν ἰδίων

The meaning to be attached to the words which describe the gift to the city are uncertain. Whatever form it took, it must have stood in the portico since the inscription referring to it was placed on a column.

The colonnaded street at Soli is a good example of Roman civic embellishment carried out on a small scale. Its purpose was not to articulate the whole city and, in magnitude, it can in no way be compared to the massive schemes at Side, Perge, Gerasa, Bostra or Palmyra. It did, however, succeed in lending a monumental appearance to the area between two of the most important public centres in the city, the harbour and the agora. The colonnades thus made of the entire commercial sector of the city one integrated architectural ensemble. While expressing the civic pride of the city in this way, it served the more functional purpose of providing an additional commercial area adjacent to the main business precinct in the agora.

Soli takes its place among the Severan examples of the application of the colonnaded street. Both Perge and Hierapolis-Castabala provide earlier examples of such a street constructed as a complete entity and planners at Soli could have been influenced particularly by the format in the latter since the embellished street joined a city-gate to the probable agora. The unified scheme at Soli contrasts markedly with the contemporary work to be seen at nearby Diocaesareia where individual stoas of different styles and sizes line the roadways.

Antiocheia ad Cragum[69] (Plan 46)

Five sites in Asia Minor, Antiocheia, Sagalassos, Selge, Kremna and Termessos, exhibit a type of colonnaded street which does not have a wide currency anywhere else in the ancient world. The format appears to be the result of both the topography of the site and the limited extent of the city's monumental sector. In these cities the one main thoroughfare traverses only a very short distance between two important structures and beyond the boundaries of this processional way and its immediate surroundings, there does not seem to have been much that warranted embellishment. These cities have a much more compact and circumscribed centre than one encounters in cities such as Ephesus, Side, Perge and Soli-Pompeiopolis or in the Syrian examples considered earlier.

Antiocheia does not have a long history, having been founded only by Antiochus IV of Commagene. It is located on the coast in Rough Cilicia between Selinus and Anemurium. The visible architecture and lay-out suggest that it partook of a simplified form of monumental Roman planning. There are two main areas within the townscape - a high citadel on a rocky hill overlooking the sea and the lower town inland from the acropolis (Pl. 70a, foot of the acropolis to the left). The sloping nature of the terrain was adapted by means of terraces to form suitable areas for the imposition of standard urban elements such as an Ionian agora and a colonnaded street. It appears that the terrace on which the latter stands was designed spe-

cifically for the placement of the decorative street since the terrace wall has a statue base of the Roman period built into it, proving that the terrace was put in after the city had already been functioning for some time.[70]

Within the townscape the colonnaded street functioned as a short (160 m.) processional way between a one-arched decorative gate on the east and the peristyle agora at its western end. The terrain made an axial arrangement between the agora and street impossible. The street enters the agora at its northeast corner.

The street continues as a decumanus to the east of the arch but at a lower level. A flight of stairs makes the transition between the two sections of roadway. It is obvious that the colonnaded street must have served as a pedestrian mall for promenading in the heart of the city.

The details of the roadway and its embellishments reveal a modest form of decorative architecture. The width of the roadway is approximately 12.25 m. (Pl. 70b). On the north side limestone stylobate blocks in situ average 0.80 x 1.30 m. in size. On the south side the terrace wall formed the substructure for the colonnade. Monolithic granite shafts lie all along the roadway (Pl. 71a). Their lower diameter is 0.55 m. and the height is 4.12 m., giving a rather small order for the porticoes. Each column has a heavy squared moulding on the bottom, 0.065 m. high. The columns appear to be the same for the entire length of the road. The axial intercolumniation is approximately 3.10 m.,

taken from two fallen columns which appear to be more or less in situ. There are no bases preserved on the extant portions of stylobate and, in fact, none are found anywhere on the road.

The order from the street is not definitely known. Where the agora and street meet, there are a few pieces from marble Corinthian capitals lying on the ground (Pl. 71b). They are 0.53 m. high and could come either from the order of the street-porticoes or from the agora whose columns are 4.08 m. high. The lower diameter of the columns here is 0.52 m. The leaves of the lower row joined completely at their tips, the tiers of geometric voids and the general lay-out of the elements suggest a late second or third century date for the capitals but they cannot provide any firm evidence for the construction of the street.

At the east end of the street the arch helped to create an enclosed entity between the porticoes and provided a visual terminus (Pl. 70b). Like the other elements in the city, this simple one-arched structure was a more modest echo of grandiose buildings on larger and more prosperous sites. It consists of two large piers, 4 x 3 m., of squared limestone blocks in mortar set 5 m. apart. The gate was, therefore, entirely within the roadway.

Subsidiary details for the street are not numerous. Nothing survives on the ground that could have belonged to shops behind the porticoes though, given its position as an adjunct to the agora, it would be usual for them to have existed here.

Decoration in the form of statues set along the road is attested by two bases in honour of victors at games known as the Leonideia.[71] They are no longer in situ but have rolled to a lower level just to the south.

Sagalassos[72] (Plan 47)

Inland in the Pisidian highlands lies the site of Sagalassos (modern Ağlasun). The lay-out and architecture are well adapted to its impressive situation on a series of terraces rising from south to north. Long streets traversing the entire city are impossible because of the sloping terrain; hence, extensive colonnading schemes could not be imposed on the site. Instead a short important thoroughfare, comparable to the one at Antiocheia ad Cragum, links groups of public buildings situated on two terraces (Pls. 72a, b, 73b). The street itself lies on the same terrace as the southern cluster of monuments and leads to the foot of the terrace situated to the north. A monumental stairway of seven steps, recalling the lay-out at Ephesos, spans the roadway at its northern end to make the transition to the upper level.

On the southern terrace stood the temple built by the city and by private donations and dedicated to Antoninus Pius (Pl. 73a -the ruins on the spur of the terrace to the left of the street).[73] The temple in its courtyard stands to the east of the line of the roadway so that it could not have formed the terminal element on the axis of

the street. Some sort of monument must have stood here to close the vista along the street and to mark the road's end at the edge of the terrace. Lanckoronski marked a propylon at this point on his plan and although there are no discernible remains of such a structure now, it is a very plausible suggestion.

At the north end of the street above the stairway stood a nymphaeum of facade-type, now completely in ruins.[74] It would have closed the vista for a pedestrian walking in the direction of the agora which stood further to the north, behind and at a higher level than the nymphaeum (Pl. 72a - in the middle ground, square outline of foundations), The main road climbs up to the agora by turning east around the nymphaeum, but it could be embellished only as far as the foot of the nymphaeum's terrace. The area to the north of the street was developed at least as early as the first half of the first century since a building in the agora was dedicated to Claudius.[75]

As can be seen from Pls.73a,74a, the details of the architecture along the street are not very well preserved. The straight line of the roadway and the stylobate in places on either side are all that have remained clearly visible. The entire length of the street would have been only approximately 200 - 225 m. Its exact southern boundary cannot be determined. The width between the stylobates is 10.40 m. The

stylobate on both sides is carefully and solidly constructed of grey limestone blocks, averaging 0.85 x 0.57 x 0.18 m. in size (Pl. 73a). On the west side, the stoa was approximately 3.50 - 4 m. wide. There appears to be some variation in width along the roadway. The space available on the terrace probably governed this changing dimension. On the east side, the back wall is nowhere preserved so that it is impossible to determine its original width. The terrace sloped gently from west to east requiring that there be a two-step stylobate on the east side and a stylobate with only one step on the west side. The pavement consists of large, square blocks laid in horizontal rows.

The architectural decor that survives consists mostly of pedestals and bases (Pl.74c). These were made in one piece and had a total height of 0.78 m. The base consists of the simple right-lined profile found at Side and Sardis in the porticoes from the streets (Pls. 46a, 52c). The example at Sardis is very similar to the one at Sagalassos since it, too, was carved in one piece with its pedestal. Since this form of base is known from dated examples from the second to the fifth century, it does not provide any firm clues for dating the colonnades at Sagalassos.[76]

No columns are in situ. Lying scattered in the roadway are six plain, monolithic column shafts cut from grey limestone. Their lower diameter is only 0.50 m. indicating that the order along the street would have been quite small. There

is one fluted column drum lying in the middle of the roadway but it is impossible to know from where this piece comes. In the large pile of debris towards the north end of the street there are small fragments from Corinthian capitals as well as the excellently carved three-step architrave block shown in Pl. 74b but these elements are as likely to have fallen from structures overlooking the street such as the nymphaeum as to be from the street-porticoes.

At the half-way point on the west side of the street there are preserved two pylons on the line of the back wall of the colonnade (Pl. 74a). These are much too massive and too widely spaced to have formed merely an entrance to a shop or room behind the colonnade. It is likely that these pylons supported an arch which spanned a short street leading off to the west. It is unlikely that a similar arrangement would have been found on the east side since the ground level drops off too quickly for there to have been structures and a road on this side (Pl. 72a). Lanckoronski[77] reports that he found a statue base dedicated to Caracalla and Julia Domna where a street came in from the east. It is unclear on the ground where a street could have come in from the east, but from his plan it appears that he thought the cross-street marked by the pylons continued on the other side of the colonnaded avenue so that the findspot for the base was probably in this neighbourhood.

The Severan date provides a probable <u>terminus ante quem</u>

for the lay-out and development of this road as a decorative pedestrian mall in the heart of the city. Unfortunately none of the few architectural remains along the street are of any chronological use. The development of the southeastern portion of the terrace as a religious area in the Antonine period mught provide the terminus post quem for the construction of the street since there is no room for any other structure to which the road could lead at the south end. Until the building of the temple here, there would have been no need for a monumental thoroughfare on this narrow terrace. All the earlier public buildings such as the agora seem to have been concentrated to the north. After the building of the temple-complex or even as part of the same project, the road was developed to link the two centres of congregation. The second half of the second century saw much monumental building on the site since the theatre in the northeast part of the city appears to belong to the end of that century.[78] Since the object of the road at one end is solely the temple, its primary function is really that of a sacra via. It may have served strictly a decorative function since there are no traces of walls for shops behind the colonnades on either side of the street.

Selge[79] (Plan 48)

The topography of Selge is very much like that of Sagalassos since the site is situated on natural terraces in a

mountainous area. It is approximately 70 km. inland from Aspendos and to the southeast of Sagalassos. The lay-out of the town evolved naturally out of the terrain with the roads following the most convenient route along flat areas on the sides of hills. For this reason the road which was colonnaded is unusual among those under consideration in this group since, although short, it is not straight. There are two gentle bends to allow it to keep to a natural curving terrace on the hillside (Pl. 75a. The line of the roadway is marked by the upright doorposts surviving from the shops).

The purpose of this thoroughfare is identical to that at Sagalassos. It runs between two important groups of buildings - the agora in a depression between two hills on the south (Pl. 77c) and a Roman podium temple situated at its north end. The road entered the agora through an arched gate (Pl. 77c). The distance traversed is approximately 200 m. Given the difficulties of the terrain, the roadway is most likely to have been a pedestrian mall. It acted as a processional way for important events in the city's life, as a daily gathering place and as a sacra via for the temple. The epigraphic evidence for the building of the temple indicates that it dates from the reign of Lucius Verus (A.D. 161-169)[80] and it is possible that its development provides a terminus post quem for the special treatment of the street.

The few pieces of surviving architectural decor support

a late second or third century date for the porticoes along the street. The architecture as a whole is very poorly preserved on the site and the street seems to have suffered particularly. A piece from the stylobate on the west side of the street is visible in Pl. 76b, but in most places both it and the pavement have disappeared. The best preserved elements are the moulded monolithic door frames from the shops which stood behind the colonnade on the west side of the street (Pls.75b, 76b). They are very similar to the door frames belonging to the shops on the streets at Anazarbus in Cilicia. The plain, square-profiled mouldings are the same (Pl. 4b). Many of the blocks from these have been utilized in modern dry stone walling put up by the villagers (Pl.76a). There is no evidence for shops on the east side of the street where the ground falls sharply away (Pl. 75a). The plan of the site in Fleischer and Machatschek indicates shops on both sides but there is no evidence now on the ground to support this reconstruction.

Found in the debris along the roadway is a small number of both Ionic and Corinthian capitals (Pl. 77a and b). Both appear to be late examples of their type. Even allowing for the Ionic capital's very worn state, it is apparent that the carving was flat and lacked plasticity. The Corinthian capital also betrays evidence of a fairly late Roman date for its carving. The sense of a kalathos behind the vegetation has been lost entirely with the leaves and calyxes covering

the entire surface. Tiny, open, ribbon-like helices can just be made out at the very top of the kalathos. On the abacus a plain, squarish boss replaces the central fleuron. All of these characteristics argue for a very late second or more probably, third century date for the Corinthian. The only other bits of architectural decor are a few fragments from plain, monolithic granite shafts. Given the fragmentary nature of these pieces it is really impossible to say how the orders were used or, in fact, whether only one or both orders belonged to the porticoes of the street.

On the basis of the few pieces of available evidence it seems that Selge's central area was developed along the lines of the two preceding cities and probably at much the same time, in the latter part of the second century or slightly later.

Kremna[81] (Plan 49)

At the site of Kremna in the highlands of Pisidia there is a fine example of the short enclosed processional way of the type found at its near neighbours, Sagalassos and Selge. The placement of the buildings within the townscape is again very much governed by the terrain. The large structures and complexes are located on the most suitable ground and hence, do not always have an axial or right-angled relationship with one another. The colonnaded thoroughfare follows a flat depression on the hillside while the agora-basilica complex to which it leads has a different orientation to enable it to

take advantage of the level area created at the junction of two small valleys. The lack of alignment between the two results in an irregularly shaped piazza forming the transitional element between street and agora (A on Plan 49).

The juxtaposition of the agora and the street is the normal lay-out for this type. The road runs east-west with the agora situated at its eastern end. It seems, however, that there was no major monument at the western end. There are no remains on the ground which slopes away steeply at this point. The enclosed roadway, therefore, is a much more self-contained unit than the examples which join together two frequented areas. The lack of a goal for traffic at one end led J. J. Coulton to suggest that it was not so much a street as a specialized shopping centre, acting as an adjunct to the agora.[82] The presence of shops behind the porticoes always means that the street would have a commercial purpose, but on analogy with the similar configurations at other sites it is likely that this street always served as a promenade and as a processional way to the agora-basilica area during public events.

The epigraphic evidence indicates that the entire agora-basilica complex was developed in the reign of Hadrian and dedicated to the emperor and the city by a local citizen.[83] The Hadrianic date provides a possible terminus post quem for the development of the street in its monumental form. The architectural decor preserved from the colonnades of the

street argues strongly for quite a lengthy period between the two undertakings since stylistically the decor seems to be Severan or slightly later.

The buildings grouped together at the eastern end provide the usual public amenities in the civic centre. The colonnaded street gave direct access to an open piazza which featured a nymphaeum of facade-type in its northwest corner (B on Plan 49). The agora-basilica complex stood on the piazza's eastern side and was probably entered through a decorative gateway which could have been visible to those emerging from the colonnaded street though it would not have been in a direct line of vision. Several particularly fine pieces of architectural decor can be seen lying on the ground in the area of the junction of the piazza and the agora (e.g. Pl.82c, an entablature block). These marble pieces probably come from such a gateway.[84] Their style accords well with a Hadrianic date and in particular the round, strongly emphasized eyes at the end of each tendril of the palmettes should be noted. This is a trait characteristic of this period in a group of pieces from the eastern Mediterranean.[85]

The street itself has a length of only 150 m. The width of the roadway is approximately 12 m. The road lies in a depression with the ground rising markedly on either side, making the topography ideally suited for a two-story colonnade lining the roadway and at the upper level backing on to a one-story colonnade facing the opposite direction on to streets

or squares parallel to the main colonnaded thoroughfare (Fig. 36). This suggestion is supported by the evidence of two sizes of columns in the debris in the roadway. The larger has a lower diameter which varies between 0.52 and 0.56 m. and a height of 4.15 m. while the smaller order has a lower diameter of only 0.32 m. and a height of 3.62 m. Even the larger order is not very impressive in size and compares in this respect with the modest orders from the porticoes on the other short enclosed streets belonging to this group. At approximately the western end of the street at the upper level there are two door posts in situ on an east-west axis (Pl. 78b, middle ground). They are in about the right position to have been part of a doorway for an end room behind the upper colonnade.

The pavement has been entirely ripped out as can be seen from the photographs. Some large, rectangular stylobate blocks of grey limestone are still in situ but with the pavement gone it is impossible to tell what the exact relationship of levels would have been. A large drain vaulted with fairly carefully shaped stones ran under the centre of the street (Pl. 79a). It measures 0.68 m. across.

The plain, monolithic shafts are made from grey granite and have a small rounded moulding 0.03 m. high at the bottom. The columns stood on bases and plinths carved with simplified mouldings (Pl. 80a and c and Fig. 37). The three elements of an Attic-Ionic base are not markedly differentiated

and the visual effect is almost that of the straight-lined bases found at Sardis and Side. The shallowness of the carving might be explained by the use of limestone, a more intractable material to carve. They stood on square plinths with projecting mouldings of squared profile at the bottom. Remains of four tall moulded pedestals, now lying in the eastern part of the street, must come from a decorative element marking the end of the street (Pl.80b). The simplest solution for their original placement is probably to situate them as free-standing entities possibly carrying statues at the point where the piazza and street met.

The order of the street was Corinthian (Pl. 81a-c) and in keeping with the modest nature of the work the stone used for the capitals is either very coarse-grained marble or a type of limestone. The stone weathers quite badly. The style of the capital bears all the characteristics of the Severan period (compare Pl.81b and Pl.64b, the capital from Soli). [86] Especially noticeable is the stylized arch formed by the attenuated inner leaves of the calyxes, which supports the volutes (Pl. 81a). All the leafy elements have moved right up to the top of the kalathos, squeezing the volutes and helices into a small space and forcing them to assume a flat, ribbon-like appearance.

The architrave has three fasciae separated by uncarved convex mouldings. Above it was set a pulvinated frieze block carved with a somewhat crude acanthus scroll with large, simple flowers in the roundels created by the curving stalk (Pl. 82b). The carved elements have a crowded and busy appearance. Above the frieze is an ovolo carved with a very broadly spaced egg-and-dart which has large areas of contrasting light and shade. The shapes and outlines tend to be triangular rather than rounded. The dart has a strongly emphasized barb which makes up half its height. A very similar scroll with an identical form of ovolo above is found on a Severan frieze from Prusias ad Hypium to the north in Bithynia.[87] The cornice blocks feature, beneath the highly stylized palmettes, a heavy rectangular bead-and-reel of the type found from the Antonine period onwards (Pls. 81d, 82a and Pl. 13b for an Antonine piece from Perge). The continuous line of decoration created on the cyma by the palmettes which no longer exist as separate entities is paralleled in the somewhat drier carving on the cornice blocks from Diocaesareia in Cilicia (Pls. 26c, 27a-d).

Except for the differences in size, the elements lying scattered along the street are homogeneous in their style and material. The portico on either side would seem to be the result of one comprehensive plan designed to create an enclosed entity within the townscape. Though it did function

as a roadway its length of only 150 m. relates it in scope to peristyle agoras or large basilicas. All the architectural elements argue strongly for a Severan date for the implementation of the scheme.

Termessos[88] (Plan 50)

The colonnaded street at Termessos should perhaps be relegated to the Appendix listing known streets for which there is little or no evidence now visible on the ground but it so obviously belongs to the specialized group of short enclosed processional ways that it seems best to include it directly with the others. The evidence for its appearance comes solely from the work of Lanckoronski at the end of the last century. It is now virtually impossible to find any traces of the street on the site although some of the stylobate and architectural decor must still exist. The area where the street should be is so heavily overgrown that nothing can be seen or studied.

Termessos is situated in the Taurus mountains only 30 km. inland but the terrain is very hilly and not easily accessible. The plan indicates that the format here was very much like that at Kremna. The situation of the site is very similar to that at sites earlier described in this chapter: the buildings are adapted to the rough

hillsides with natural terraces governing the groupings of buildings. A short north-south street of modest dimensions, being only ca. 120 m. long with a roadway only 5.5 m. wide, was installed on a flat area that had large public buildings at least at the south end. On each side the road was enclosed by double stoas behind which were shops that apparently backed onto another row of shops facing in the opposite direction. There were probably streets running parallel to the main colonnaded street.

The street was used, as was often the case, as a gallery for statues of local citizens. Lanckoronski found 41 statue bases on the roadway. Included among them are three that date from the early second century and the excavator accepted these as proof that this colonnaded street was installed by then.[89] The evidence from sites like Palmyra, Diocaesareia and Soli-Pompeiopolis shows that dedications could often be relocated in new places suitable for them. Other streets of this type all seem to belong to the end rather than the beginning of the second century and it is unlikely that Termessos would have had such a comprehensive scheme imposed so much earlier than the others. These particular schemes probably arose after the extensive application of porticoes to streets with varying degrees of overall planning had become a commonplace in the architectural repetoire. Given the lengths

of roadway colonnaded elsewhere, the undertakings at these sites would not present enormous logistical or financial difficulties even though they all seem to be complexes built in one period and to a similar plan.

Conclusions

These short streets lined with colonnades and forming within the overall townscape independent entities in conjunction with buildings situated at either end are a phenomenon of southwestern Asia Minor not paralleled elsewhere in the eastern Mediterranean. The terraced nature of the sites must be the primary motivation in the development of such schemes and the original for them can, in fact, be found in embryonic form in the Hellenistic architecture of the theatre terrace at Pergamon. Though there is no epigraphic evidence for the construction of any of these streets, it seems likely that they all belong to the end of the second century or beginning of the third.

Olba[90]

Olba existed in the pre-Roman period as the secular settlement for the religious area situated around the temple of Zeus Olbios, the site that became Diocaesareia in the first century. Olba lies only 4 km. to the east and its architecture must have been similar in material and style. The remains at Olba, however, are not nearly so

well preserved. The road joining the two sites was apparently the continuation of the main street of Olba and the modern road still follows the same line for at least part of its way (Pl. 83a). On either side of the modern roadway can be seen the columns, bases and capitals, sometimes built into village houses (Pl. 83b), which originally made up porticoes lining one of Olba's main roads. The remains of a large nymphaeum of facade-type can be seen in the background of Plate 83a . This structure could have been the eastern termination of the colonnaded street.

Since Olba's architecture is so poorly preserved, it is impossible without excavation to ascertain the nature of the city's colonnading. It has been included with cities that have one main street embellished, but it is entirely possible that Olba resembled its close neighbour in having a cardo and decumanus set out with porticoes. Since the terrain is basically flat with only the small hill against which is set the nymphaeum to break the level ground, it is unlikely that the site had a short enclosed processional way of the sort found on the group of sites in southwestern Asia Minor discussed earlier. Olba was probably more like Soli-Pompeiopolis where a major route servicing a large part of the city was colonnaded.

On the south side of the street two bases with an axial intercolumniation of 2.60 m. are in situ. There

are five more bases on this side which are probably still in or very close to their original places. On the north side of the street there are bases of the same type. Traces of the stylobate on both sides provide an approximate width of 11.40 m. for the roadway. The bases are fundamentally the Attic-Ionic type set on a plinth but the shallowness of the three elements is very noticeable (Pl. 83b and Fig. 38). The upper torus has either not been rounded off intentionally or the bases have not been completely finished. The former is likely to be the correct explanation and probably results from the use of a somewhat intractable limestone for the bases and capitals. The columns are smooth, monolithic shafts with a lower diameter of 0.48 m. The order from the street is small.

The stone may have been partially responsible also for the choice of smooth-leaf Corinthian as the order for the street although this type of capital was very popular in the southeast corner of Cilicia and in Syria (Pl. 83d).[91] It was used extensively in Diocaesareia, most noticeably as the order for the porticoes on the colonnaded decumanus. The height of the capital is 0.50 m. A comparison of the capitals at Olba with those from Diocaesareia reveals that the Olban examples are much cruder and more lacking in any feeling for naturalism (Pls.83d and 24). The broad leaves are carved in low relief in a flat plane on the kalathos with only a small but thick piece detached at the top to

create some movement. There are no relieving lines engraved in the surface of the leaves to imitate the central vein and thus to break up their monotonous appearance. The leaves of the upper row are not formed by the carving of a separate plane but by merely cutting an outline for them into the surface of the stone. A parallel for these capitals can be found in the capital from the Cemetery Church at Manastirine which dates to ca. A.D. 400.[92] No complete capital has survived so that it is difficult to formulate any very precise suggestion for the order's date on the basis of style although the cursory treatment of the extant elements in the capital and the bases does make the third century a likely period.

Surviving fragments of the architrave (Fig. 39) indicate that it too had a simplified format. The three fasciae are not separated by decorative mouldings of any sort and above there is only an ovolo and a plain fillet.

There are traces of a back wall in places which give a width for the porticoes of 5.80-90 m. The only other piece of evidence for the appearance of the street is a statue base noted by Keil and Wilhelm on the street beside the nymphaeum; it honours a victorious athlete.[93]

Pergamon[94] (Plan 51)

An excellent example of the application of enclosing architecture to a roadway in order to create a monumental

sacra via specifically for a religious area occurs at Pergamon on the road leading from the lower town to the Asklepieion. This road underwent several transformations before it achieved its present form (Pl. 84a) and the stages reflect various attitudes towards street management current at different times in the ancient world.

Unlike all the other streets that have been considered, the roadway at Pergamon lacked any major role within the city itself. The lower town is over a kilometre away from the sanctuary area and even outlying structures of the Roman period are still more than 800 m. from the Asklepieion. The sacra via thus played no apparent function in the secular townscape. It served as an access route solely to the major religious centre for the area and must have been important for processions and communal sacred events as well as serving the needs of the individual making his way to the sanctuary.

In the Hellenistic period the sacra via was already in existence following almost the same east-west route though at a higher level and with its special character emphasized by the structures that lined it on both sides. By their nature they did not enclose the roadway but they do testify to its importance. On the south side stood a round structure which was probably a heroon and on either side were grave reliefs of important Pergamene citizens. The road terminated at a propylon of Hellenistic date

which preceded the Roman structure of the second century now in place.[95] Its unpaved surface was in keeping with the general treatment accorded even to important thoroughfares in the Hellenistic period and the experiment in street-management noticeable on the theatre terrace did not spread to this part of the lower town.

In or before the reign of Trajan a very interesting architectural format was applied to the sacra via which seems to be unique in the eastern Mediterranean although comparable streets, now lost, could have existed elsewhere. A via tecta or covered passageway was constructed from a gate beside the Trajanic theatre to the sanctuary area, a distance of about 800 m. Although the via tecta now stops approximately 150 m. east of the entrance to the Asklepieion at a point where Ionic colonnading begins, it originally probably extended right up to the temenos since any planned approach is not likely to have stopped so far short of its ultimate objective (Pl. 86a and Fig. 40).

The immediate origins for such a scheme are probably to be sought in Italy in structures such as the arcaded and vaulted passageways lining Nero's sacra via in Rome (Plan 11). The cross-vaults were supported on large granite pillars which are a simplified form of half-column engaged to a pier (Pl. 86a). A form of Doric capital with abacus above supported the arches of the arcade. Attached to the passageway on its northern side

is a row of small rooms, probably shops. O. Deubner[96] makes the comparison between this structure at Pergamon and a comparable building type surviving in Italy today in the form of a vaulted passage in Spoleto which leads from the Porta Loreto to the Church of the Madonna. Such a more recent Italian counterpart argues in favour of Italic connections for Pergamon's early Roman street.

An inscription reveals that in the Trajanic period, ca. A.D. 100, a gateway was constructed at approximately the point where the via tecta now ends.[97] The gate would have provided a visual terminus for the via tecta and would have formed a transitional element between it and the more open architectural format to the west. The date for the gate provides a chronological fixed point for the construction of the via tecta. The gate and street were either constructed together when the more usual format was already planned for the rest of the distance to the temple or else the gate was built after the original via tecta was shortened to make way for the Ionic colonnaded street. The gate would have been designed to mask the sudden breaking off of the passageway. A Late Antique bath building destroyed most of the details of the gateway.

In the middle of the second century a major replanning and rebuilding of the Asklepieion took place. The bulk of the evidence points to an Antonine date for this building period[98] although occasionally it is referred to

in print as Hadrianic.[99] Of particular importance is the dating of the propylon which marked the entrance to the sanctuary from the colonnaded street. It was built by Claudius Charax who is known also to have dedicated an honorary statue to Antoninus Pius.[100] The reworking of the immediate approach to the sanctuary into an Ionic colonnaded street seems likely to have formed part of the same general scheme of rebuilding taking place in the first half of the second century. The fact that the via tecta and its gate were in place already by the Trajanic period may indicate that the Ionic colonnades were foreseen or already completely planned at an early stage in the second century.

The colonnades for the 150 m. from the small piazza west of the Trajanic gate to the propylon of Charax are obviously uniform and built to one all-embracing plan (Pl. 84b). Such a scheme of comprehensive enclosure in the Trajanic or Hadrianic period is not common and, in fact, this street may have inspired the projects at sites such as Perge where the details of the order are very similar.

The colonnaded portion is only 140 m. in length. At the east end the final column in each portico is replaced by a pier standing on a square base and pedestal which have the same mouldings as the bases and pedestals of the columns (Pls.84a and 87b). The pavement consists of rectangular blocks of various sizes, of which some appear to be reused since there are dowel holes on their upper sur-

face (Pl. 85a). Most of the blocks are of reddish-brown granite. They are laid horizontally across the street with an attempt made to keep to parallel rows although the joins are irregularly placed. In places the central portion has settled over the drain. Semicircular cuttings on the edges of some blocks provided openings for the water to run down into the drain. The width is 8.45 m., narrower than the majority of streets.

On either side there is a one-step stylobate, also constructed of reddish-brown granite. The blocks measure 0.72 x 0.90 x 0.26 m. on the average. The pavement of the porticoes appears to have disappeared entirely. Set on the stylobate are low pedestals surmounted by Attic-Ionic bases on a plinth. The form remains constant on both sides of the street for the whole length but the method of construction differs. In some cases (e.g. Pl. 87b , the pier) all three elements are carved from one block of stone. In others the base and plinth are carved in one piece and set on the pedestals (Pls. 85b, 87a). The height of the pedestals is 0.43 m. while the base and plinth together total approximately 0.25 m. The small size of the upper torus in relation to the scotia and lower torus is noticeable and finds a parallel in the bases on the colonnaded street at Hierapolis-Castabala, probably of Antonine date (Pl. 36a). The form of the pedestals with their simple mouldings at

top and bottom is similar to the pedestals on the Arkadiane at Ephesus although the latter have a more complicated series of mouldings at the bottom (Pl. 55b). The bases and pedestals in the small courtyard west of the propylon of Charax have an identical profile to those on the street supporting the assumption that the street and remodelling of the Asklepieion are closely connected. Another almost identical format for base and pedestal can be found at Perge (Pl. 12b).

The columns are all plain monolithic shafts with a heavy squarish moulding at the bottom and a fillet and half-round at the top (Pl. 87a). The type of stone used for them varies; a few granite columns are found but the majority are of marble. Three types were used: streaky white Proconnesian, a green striated variety, and a red mottled sort. Approximately one third of the way up the shaft on many of the columns there is a small square cutting (Pl. 85b). It is too small for the attachment of consoles or even for lighting devices of the sort found at Ephesus. A possibility is that some type of small dedicatory plaque might have been mounted there by means of a small tenon.

The order is Ionic carefully executed in white Proconnesian marble (Pl. 88a). The spiral of the volute stands out in high relief uncurling from a large round eye. In the egg-and-dart on the echinus a tall, oval form predominates with the ova narrowing to a point at

the bottom. They are completely surrounded by their sheath. The dart is a simple vertical shaft set between the sheaths and contiguous to them on both sides. The palmettes are fleshy and somewhat static in appearance. The capitals at Pergamon are very close in style to those of the colonnaded street at Perge (Pl. 13a). The correspondance both in their appearance and in the somewhat unusual choice of this order for the street-porticoes points to a connection between the two streets.

The entablature exhibits a very plain appearance. On the soffits of the architrave a narrow plain band with slight convexity is outlined by a groove. There are two fasciae separated by an uncarved quarter-round moulding. Above the fasciae is a series of three plain mouldings consisting of a quarter-round surmounted by a shallow cavetto and a fillet. The relation of the two fasciae is unbalanced since the lower is 0.096 m. high while the upper is 0.173 m. high. The large square cutting in the front face of one architrave block (Pl. 88b) must belong to some secondary use. The same phenomenon appears at Hierapolis-Pamukkale (Pl. 92a) and is in both cases a possible indication of the roofing of the roadway itself at some point in the Byzantine period when the complete enclosure of such formats to create a souk has been attested in cities such as Antioch and Laodicea-on-the-Sea after they had fallen under Arab domination. Such a scheme is feasible on colonnaded streets like this one

at Pergamon where the roadway itself is not particularly wide. Towards the western end of the street there are a few blocks in situ on the pavement itself which perhaps date from this period when the roadway was no longer a thoroughfare.

The cornice blocks of the order (Pl. 88c) are ca. 1.50 m. long; visible on the back face are square cuttings for the wooden beams belonging to the roof of the portico. The dentils are small and square with no connecting element. Above is a series of completely plain mouldings (Fig. 41 for the order).

In general the simplification of the decor and profiling is noticeable in the order from the street. This phenomenon was noted elsewhere at Pergamon by D.E. Strong who drew attention to the decoration on the porticoes around the Trajaneum and on the temple itself.[101]

An integral part of the overall scheme were shops arranged in a regular row behind each portico (Pl. 86b). A large amount of reconstruction has been done on a section of these rooms on the south side of the street using fairly regular rows of stone set in mortar between the large squared blocks used for the door-posts. The latter, which are found approximately in situ along the street, can be accepted as part of the original scheme but the appearance of the wall itself may have been somewhat different.

On the north side of the street the portico is in-

terrupted near its eastern end by the placement of a nymphaeum, square in plan (Pls.84b, 85b). A low parapet over which people could lean to fetch water stands on a line with the interrupted row of columns. Unlike the nymphaeum set into the portico at Diocaesareia, this structure at Pergamon completely breaks the flow of traffic in the northern portico and the visual uniformity along this side of the street. It must, therefore, be later than the installation of the original colonnaded street in the first half of the second century, but a lack of epigraphic evidence and architectural decor makes it difficult to pinpoint chronologically.

As a fully designed and enclosed colonnaded street serving solely as a sacra via outside the boundaries of the city-centre, this example at Pergamon remains unique. It is likely that the planning here, while utilizing precedents from the first century, was innovative in its completeness and its role. Moreover, it appears to have influenced subsequent approaches to street-management in Asia Minor. The via tecta, on the other hand, was an experiment not destined to give rise to imitators.

Miletus[102] (Plan 52)

Miletus appears to have maintained throughout the Hellenistic and Roman periods the layout and general visual appearance that it had from the period or rebuilding

in the fifth century B.C. after the Persian destructions. Advantage was not taken of the strict grid system to impose a specifically Roman townscape in the form of colonnaded main streets crossing at right angles and defining the extent of the city. No one street was ever singled out as a major thoroughfare for the whole town. The only obvious concession to Roman ideas of monumental street-management occurs in the very heart of the public sector of the city where a gradual process over a period of approximately one hundred years resulted in an enclosed street which is in fact, closer to an elongated piazza than to a thoroughfare.

The street is a rectangular area, approximately 100 m. long and 28 m. wide, which opens out at its southern end into a large square with monumental facades on three sides. It served the main public buildings of the city which had been grouped here since the second century B.C. These included the north and south agoras, the gymnasium and bouleuterion. With time the entire area became more and more enclosed by colonnaded facades. An impetus to the embellishment of this sector would have been provided by the fact that the yearly procession from the Delphinion at the north end by the harbour to the Temple of Apollo at Didyma passed along this roadway.

The progressive enclosure of the area began in the early first century at its northern end when the Harbour Gate

was installed between the Hellenistic harbour stoa and the Delphinion (A on Plan 52). It was made up of two rows of eight columns each and these provided a columnar screen to anyone looking north from the roadway. The un-Roman character of the layout of the area is apparent in the lack of axiality in the whole arrangement. The gate-way is reached only after passing through a small square set to one side of the roadway.

The sight-line at the southern end was similarly off-centre. Directly visible to those in the roadway was the back wall of the northern colonnade of the south agora. A more monumental visual terminus was provided at one side in the form of the North Gate which led into the agora (B on Plan 52). Its columnar decor would have balanced that of the Harbour Gate and in similar fashion a square opens out in front of it. The square at the southern end of the street is by far the larger. The gate into the agora was not given its final form until just after the middle of the second century[103] so that the two gates can, in fact, be taken as the chronological limits for the work here.

The area that can be considered a roadway is only 100 m. long (Pl. 89d). The central paved portion has a width of 17 m. which immediately removes this architectural grouping from the category of merely functional thoroughfares. On either side is a slightly raised sidewalk, approximately 5.75 m. wide. In the Claudian period the

east side of the street was given a uniform facade for its whole length in the form of an Ionic colonnade set on a six-step stylobate. The height of the stylobate removes this colonnade somewhat from a direct visual connection with the street (Pl. 89d). The facade overlooks rather than borders the street in the same way as the Hellenistic Sacred Stoa at Priene.

Set on the stylobate are Attic-Ionic bases on plinths which then rest on low plain pedestals. The columns were fluted and the order is Ionic. The simplicity of the mouldings of the entablature (Pl. 89 a-c) compare with the later entablature from the Ionic street-colonnades at Pergamon (Pl. 88 b-c). The three-step architrave has no mouldings between the fasciae. An inscription on the top fascia refers to its building and to the baths behind built by Cn. Vegilius Capito, procurator of Asia Minor under Claudius.[104] The architrave was surmounted by a bead-and-reel of globular variety and a cymation. On the soffit is an inset panel carved with a braided pattern.[105] The frieze is flat and carved with an acanthus scroll having large flowers in the roundels (Pl. 89c). Broad palmettes break the flow of the floral design. The general impression of the work is flat, dry and stiff. Above is a large ovolo carved with tall eggs narrowing to a point at the bottom. They are completely

surrounded by heavy sheaths. The darts are plain shafts narrowing toward the bottom rather than ending in a barbed point. The cornice block consists of large rectangular dentils above which there are plain mouldings.

Behind the colonnades there was a row of small shops. Through one of these rooms there was an entrance into the palaestra of Capito, built at the same time as the portico. There was no access from the portico, however, to the Hellenistic gymnasium that lay to the south. It could be entered only through a door in its short side facing the square to the south (Plan 52). The colonnade provided a unifying facade for the two large buildings put in at different periods along this side of the street.

Providing a final decorative element on the east side as one progressed toward the South Agora was a large nymphaeum of facade type which appears to have been constructed in the reign of Vespasian.[106] Its facade was not at all integrated with the colonnade of the street since it stands as an independent structure well to the east of the line of the street-colonnades. The columnar facade of the fountain was probably designed to balance the columns of the Hellenistic propylon leading into the bouleterion that stood on the west side of the large square. As a pedestrian moved from the narrower roadway into the more open piazza the nymphaeum would have been an eye-catching element on the left.

The influence of street-management which tended to-

ward the complete enclosure of a road with lines of columns is very apparent in the architectural treatment applied to the west side of the street. When the North Agora was rebuilt in the second century, its east wall was demolished an replaced with a double row of shops, one facing west onto the agora and the other east onto the road. To create the illusion of a colonnade matching that on the east side of the street, half-columns were applied to the front wall of the shops.[107] The wall itself stood on a three-step stylobate that recalled the stylobate of the colonnade on the other side.

The gradual development of this area resulted in a type of decorated street that has no parallels in any other city but that does reflect general trends in planning and architecture at this time. As in Soli-Pompeiopolis, the road traverses the area between the harbour and the agora. And as in the group of cities in southwestern Turkey discussed earlier the street forms a closed unit in the centre of the public sector, isolated from the townscape as a whole.

Hierapolis-Pamukkale[108] (Plan 53)

At the site of Hierapolis in Phrygia there is an unusual architectural format applied to the main north-south street on the stretch immediately inside the north city-gate (Pl. 91b). Any attempt to recover all the de-

tails of the street's architecture is hampered by a thick deposit of calcium, up to a metre in places, that has formed a protective shell over most of the remains on the site (Pl.94a--deposit visible blocking arch). The architecture itself of the street has deteriorated badly due to the friable nature of the travertine from which it is constructed.

The length of the colonnaded portion of the street is about 160 m., starting at the north gate and ending just before the late gateway in a defensive wall that reduced the size of the city in a manner comparable to the fourth century defences at Side (Plan 53). It has been claimed that this wall cuts the colonnaded street and leaves part of it outside the walls.[109] The remains, however, make it clear that this is not the case. The well-preserved colonnade on the west side at its southern end was carefully terminated with finished elements belonging to the original period of construction. A pier replaces the column-pier format at the corner and balustrades on either side of a well-built doorway mark the entrance to the portico on its short side at the south (Pl.92b and Fig. 42). Hence the scheme under consideration seems to be complete and designed to define a specific area within the city. There is no evidence that the entire cardo was colonnaded. To the south of the late gate there remain no visible traces of architecture that

can be definitely associated with street-porticoes.

At the north end the porticoes of the street are not brought into close relation with the gateway (Pl.94a). As can be seen, the gateway, consisting of three arches of the same size, is flanked on either side by towers. The porticoes do not line up with the side arches as usually occurs when the gateway has a large central opening and two smaller side opendings. Instead the columns on both sides of the street are in line with the towers and it would appear that they stopped a little way before the gate although the exact format cannot be ascertained since the actual end of the colonnades has not survived. The gate was put in during the reign of Domitian by the proconsul of Asia, Julius Frontinus.

The street was embellished with a uniform format on both sides for about 160 m. The roadway is only 7.90 m. wide and is paved with a mixture of large and small limestone blocks, all roughly squared (Pl. 91a). Some care was taken in laying them out in regular rows but the lines are frequently broken. Blocks vary from c. 1.75 by 0.95 to only 0. 60 by 0.95 m. There are no apparently reused blocks and a large drain runs beneath the pavement. On either side there is a sidewalk raised 0.11 m. above the roadway. The presence of the sidewalks on the <u>outside</u> of the covered porticoes suggests that the latter were not necessarily part of the public thoroughfare, a suggestion that is substantiated when one considers the for-

mat of the porticoes themselves (Fig. 42).

The colonnade on both sides of the street consists of half-columns engaged to piers (Pl. 91b and Fig. 43) recalling the larger scale format at Pergamon in the via tecta (Pl. 86a). The pier-column combinations vary a little in size. The average axial intercolumniation is 2.30 m. but it too varies with some pairs being separated by approximately 3 m. These pairs probably represent doorways allowing access into the portico itself which was along most of its length closed to the street. A parapet about one-quarter the height of the columns is still in situ between columns at the south end on the west side (Pl. 92a) and further to the north on the same side. The parapets are set on a series of three mouldings carved out of a block which fits between the columns. That these parapets formed part of the original layout seems certain from the details visible at the southern end of the western portico (Pl. 93b). The pier which terminates the colonnade stands on a moulded base designed to correspond to the Attic-Ionic base with plinth on which the half-columns stand. The pier's moulded base turns a right angle and continues to the north for a short distance in a line with and forming the continuation of the mouldings under the parapet. Hence the parapet with its moulded base must have been foreseen when the columns were erected.

The parapets have a height of 0.74 m. and a width of

0.37 m.; their tops are finished with two large mouldings. The parapets are approximately as deep as the piers to which the half-columns are attached and they are contiguous to them rather than to the rounded surface of the columns. The desire for parapets in the scheme may explain the use of the piers as part of the vertical element. They provided a flat surface to which the parapets could be attached. Where there are now no parapets most of the piers have traces of cuttings designed to create a close join at the junction of parapet and pier (e.g. Pl. 91b). Also noticeable on these are cuttings higher up which imply that the upper area could also be shut off from the roadway, perhaps by means of a device such as a wooden screen. As was mentioned above, the same type of parapet continues around the corner of the portico at its southern end ensuring entrance into the roofed area only through the door framed by monolithic jambs with simple mouldings.

Beneath the half-columns are Attic-Ionic bases, 0.21 m. high, set on square plinths 0.10 m. high (Pl.92a). The free-standing pier terminating the colonnade stands on a base that has an unusual form consisting of a cavet-to surmounting two tori.

The order is a debased form of Doric (Pl. 92a and Fig. 44) in which the abacus, echinus and top portion of the columns are carved out of one block. The height of the portion devoted to the column varies but in general the total height of the ensemble is 0.30 m. The visual

effect is squat and unattractive.

The architrave and triglyph-metope frieze are carved from one block (Pl. 92a). The plain one-step architrave is surmounted by a fillet, a cyma and a fillet. The spacing of the triglyphs varies; generally there are two per intercolumniation and two placed above each column although at times not exactly above the columns. Above the frieze are two shallow cavettos and a projecting fillet. There is no decorative carving on any of the elements. In one place the cornice is still in situ (Pl. 93a). The form it takes is unusual in that the major element within it is a large pulvinated band below the crowning fillet. In some cases (e.g. Pl. 94c, a cornice block on the ground) the convex surface is not so pronounced. Below this band is a half-round and fillet. The projection of the cornice beyond the line of the architrave-frieze is very noticeable. At the bottom the front edge of the cornice is already 0.15 m. beyond the face of the frieze. There is some variation in the quality of the carving for the mouldings indicating that several stone-carvers must have been at work on the project.

The details of the architectural order do not easily fit into any chronological framework on stylistic grounds. The mouldings at the top of the piers on the Domitianic triple-arched gateway echo the Doric order of the street (Pl. 94a). In the centre of the city the temple of Apol-

lo had a Doric phase before it assumed its final Ionic form. The Doric order has been assigned to both Flavian and Augustan periods.[110] The most interesting point of comparison is that the Doric order stood on half-columns attached to piers. The entablature featured a plain architrave and a triglyph-metope frieze carved from one block. These details parallel elements in the street-porticoes.

The use of Doric itself is not common in Roman Asia Minor. For its appearance in stoas one has to look to the Hellenistic period in, for example, Pergamon where the Hellenistic long stoa in the sanctuary of Asklepios is Doric.[111] At Sillyon there is a Hellenistic Doric stoa whose relationship to other buildings is not entirely clear.[112] It stands approximately 20 m. to the south and almost on the same line as remains of houses; they lie slightly to the west of the actual line of the stoa which could therefore have formed the facade for similar buldings if they had extended so far south. Verzone assigned the architectural remains of the street to the second century B.C. without any discussion.[113] On the basis of internal evidence on the site and of chronological possibilities for street-management it seems more likely that this arrangement was implemented in the first century after Christ when other Doric work was done here and when this area of the city was being defined by the im-

plementation of the Domitianic gateway.

For the use of stone parapets between the columns there are many parallels in Syria. They were especially common in the upper storey of porticoes attached to houses.[114] The domestic architecture of northern Syria has been little studied and the dates when these parapets were employed is not securely known; the earliest date assigned to such formats in Syria, however, is second century.

On the street at Hierapolis there does not appear to be a clearly defined unit of stoa and shops. The structures on the east side cannot be seen since they have not been set free from their thick covering of calcium. On the west side, however, it is clear that the portico did form the facade for an irregular row of small rooms that were used as shops and work areas (Pls.90a, 94b). There are rooms of various shapes and sizes giving access to one another and forming groups that could be houses, offices or more complex commercial establishments. At the south end where the portico is entered through a doorway on the short side, the area between the columns and the back wall is 8 m. wide (Fig. 42 and Pl. 92b). The portico appears to widen into a courtyard-like arrangement at this point. The balustrades numbered 1, 2 and 3 on Fig. 42 are original but at a, b and c there are later walls between the columns, obscuring the

bases and plinths. Late wall a appears to be blocking an entrance into the portico since the intercolumniation is wider between columns A and B and no cuttings appear on their inside faces. Late walls b and c take the place of parapets since there are cuttings for them visible in columns B and C. Hence the courtyard could be entered from both the south and east through doorways but the presence of parapets hindered a continuous or unregulated movement between the street and the portico, amking the latter much more a self-contained and independent structure than street-side porticoes normally are. The portico's enclosed nature is further emphasized by another door constructed with monolithic moulded jambs which takes the place of the half-columns about halfway along the street on the west side (Fig. 42). The presence of the door implies that the parapets continued for the length of the street and, in fact, there is still one in situ approximately 28 m. north of this doorway.

At the street's south end the architrave and frieze blocks are in place for four intercolumniations (Pl.92b). There are no cuttings for ceiling beams on the backs of any of these blocks, an absence that gives rise to the possibility that the square court might havebbeen open to the sky. Further to the north where another group of entablature blocks are still in place, there are cuttings for ceiling beams near the top on the back of each block.

The cornice in place further to the north has cuttings in the back for roof beams. Thus for most of its length at least, the area behind the columns was roofed.

At Hierapolis a phenomenon quite common in the Late Antique-Early Byzantine period is clearly recognizable. All the entablature blocks in situ exhibit an unusual feature (Pl. 92a). There is a row of square cuttings set ca. 0.35 m. apart in the front of each block, sometimes at the level of the architrave and sometimes on the frieze. The cuttings average 0.15 m. x 0.13 m. and there are three or four per block. Since they often cut into the mouldings or into the triglyphs of the frieze it is clear that they are later than the original carving of the blocks. They must have been used for rafters belonging to a roof placed over the roadway itself. At this time the roadway would have ceased to function as a street for through traffic. On the pavement itself there is a profusion of poorly constructed rubble walls that must belong to houses and shops sheltering under the late roof (Pls. 90a, 91b).

It is difficult to classify the Roman lay-out at Hierapolis with any other types which have been considered. The structures lining the short stretch of roadway may have been intended as a covered bazaar area with doorways at intervals giving access to different areas within the portico. Or the doorways may have replaced the parapets at the points where direct access was needed

into buildings to the west of the portico. In this case the portico would be a lengthened monumental version of the Italian porch-type of portico attached to the street-frontage of buildings. Pedestrians were provided with sidewalks on the outside of the porticoes, implying that the roofed areas were not intended necessarily to provide a through walkway.

EPILOGUE

The cities of Asia Minor exhibit a varied and inventive application of trends in street-management. Nevertheless, these streets are characterized by a certain restraint in size and expenditure compared to monumental Syrian examples at sites like Palmyra and Gerasa. A cross-plan with two colonnaded avenues or one main thoroughfare servicing the city's core are found in the majority of cities. A distinctive contribution to the latter type is the short, enclosed street which serves as a mall or precinct. The terraced cities of southwestern Turkey were ideally suited for the application of this lay-out. Only a few of the large and wealthy cities on the west coast and in Pamphylia approach Syrian monumentality. Ephesus and Side are the two outstanding examples.

Although the outline of many streets has survived for a millenium and a half, rapid modernization and large scale building projects in Turkey are destroying, sometimes overnight, the traces of many Roman streets of this type. In the summer of 1975 an aged villager led us to a ditch on the site of Elaeussa-Sebaste, a coastal Cilician town. The ditch was filled with broken, fire-blackened columns which he said came originally from a row of columns standing on the ground now covered by the asphalt of the south coast highway (Pl. 95a).

Freya Stark appears to have arrived on the spot just as the destruction was taking place and she recorded the event.[115] At that time she noted over fifty columns lying in the ditch; now there are only about fifteen. Early travellers saw the columns still standing and interpreted them as part of a colonnaded avenue leading up from the harbour into the city.[116] Perhaps the effect was similar to that at nearby Soli-Pompeiopolis where the street led from the harbour to the agora. Soli has lost the southern end of its colonnaded street beneath the pavement of a parking area for a nearby motel and casino. At Antiocheia ad Cragum bulldozers have recently torn up the area of the colonnaded mall. New dams will drown other sites and the colonnaded streets of Asia Minor will pass into a deeper oblivion than that of the past fourteen hundred years.

Notes to Chapter VI

1. The site has not been excavated so literature on it is limited. The most useful work to consult for the street is A. Peschlow-Bindokat, "Zur Saulenstrasse von Pompeiopolis in Kilikien," Ist. Mitt. 25 (1975) pp. 375-391, which appeared after I had finished my initial study of the site. I was pleased to see that the author arrived independently at the same conclusions about the dating of the street. Also of interest are A.A. Boyce, "The Harbour of Pompeiopolis," AJA 62 (1958) pp. 67-78; P. Verzone, "Soli-Pompeiopolis. Citta Ellenistiche e Romane dell'Asia Minore," Palladio N.S. 7 (1957) pp. 62-64; R. Heberdey and A. Wilhelm, Reisen in Kilikien ausgefuhrt 1891 und 1892 in auftrage der Kaiserlichen Akademie der Wissenschaften (Denkschfriften der Kaiserlichen Akademie der Wissenschaften in Wien. Phil.-Hist. Klasse. Band 44, 6, Vienna 1896), hereafter Heberdey and Wilhelm; J. Keil and A. Wilhelm, "Vorlaufiger Bericht uber eine Reise in Kilikien," JÖAI 18 (1915) Beiblatt. pp. 45-48, hereafter Keil and Wilhelm. For the history of the area see M.E. Kirsten, "Diokaisereia und Sebaste, Zwei Stadtegrundungen der fruhen Kaiserzeit im Kilikischen Arbeitsgebiet der Akademie," Anzeiger der österreichischen Akademie der Wissenschaften Phil.-Hist. Klasse, 110 (1973) pp. 347-363.

2. Heberdey and Wilhelm, p. 42.

3. See Boyce, op. cit. (note 1). Using the evidence of the coinage of Soli the author provides a strong argument for major harbour installations begun here in the reign of Hadrian and completed under Antoninus Pius. It is certainly possible that once major work had been completed on the harbour itself interest then turned to the area of the city immediately adjacent. That there was an apparent delay of almost forty years before the colonnades were undertaken may have been due to lack of funds or more pressing needs for other buildings. What can, I think, be said is that the monumental installations in the harbour itself were probably the beginning of a massive building scheme in that area of the city since the emphasis in Eastern Roman city-planning in this period was not on isolated structures of monumental proportions but rather on grand schemes of unification designed to bring structures and areas into a close harmony with obvious dependence on one another for their architectural effect.

4. Heberdey and Wilhelm, p. 43.

5. Plan 14.

6. Plan 7.

7. De Architectura I, 7, 1

8. See E. J. Davis, Life in Asiatic Turkey (London 1879) p. 24. The author noted remains at the north end of the street, which suggested to him the site of an agora there. All the wreathed columns, Corinthian capitals and the large open space in which were set pedestals have disappeared under modern constructions. Also, F. Beaufort, Karamania (London 1818) pp. 260-61, describes the street as being approximately 450 m. long and ending at the North Gate in the city wall. This would, however, have been an unusually restricted area for a city of commercial importance and with obvious pretensions, as is evidenced by its monumental architecture. In Beaufort's plan on p. 249 traces of walls further to the north are shown and labelled as outer walls; however, even these do not appear to give an indication of the true extent of the city. All traces of what Beaufort saw have disappeared, but the likelihood is that we are dealing here with a late defensive wall constructed some time in the Late Antique or Early Byzantine period. Such late walls which greatly reduced the original area of the city are well-known from remains such as the fourth century city wall through the centre of Side. Also see T. Leslie Shear Jr., "The Athenian Agora: Excavations of 1972," Hesperia 42 (1973) pp. 391-98, for the defensive walls at Athens.

9. See A. von Gerkan (T. Wiegand ed.), Milet. Ergebnisse der Ausgrabungen und Untersuchungen seit dem Jahre 1899. I,6. Der Nordmarkt und der Hafen an der Löwenbucht (Berlin and Leipzig 1922) Pl. XXVI and Pl. XXVIII. It must be remembered, however, that this was not a true colonnaded street in the sense of an architectural complex conceived in its entirety and then executed. The colonnades were actually stoas constructed at different times on either side of the street.

10. Heberdey and Wilhelm, p. 87, note 1, date the street to the time of Pompey. R. Paribeni and P. Romanelli, "Nell' Anatolia Meridionale," Mon. Ant. 23 (1914) p. 90 ascribe it to the second century. E. J. Davis, op. cit. (note 8) p. 24 decided, quite correctly but without evidence or argument, that the architecture of the street belonged to the end of the second century. A. M. Schneider, RE XXI^{2} (1952) col. 2043 dates some of the capitals of the street to the middle of the second century and others to the end of the

second-beginning of the third century but without further comment. M. Collignon, in "Notes d'un voyage en Asie Mineure," Revue des deux mondes 38 (1880) p. 913, states that the street is Diocletianic, again with no supporting evidence. P. Verzone, op. cit.(note 1), p. 63 states that the style of the capitals seems to be of the second century.

11. See W.B. Barker, Lares and Penates or, Cilicia and its Governors (London 1853) p. 131.

12. See below, pp. 351-354, and L. Duchesne, "Inscriptions de Pompeiopolis," BCH 5 (1881) p. 317, no. 3, which honours Armenius Peregrinus who is described as λ[α]μπροτατοs and no. 4 which honours a consularis Ciliciae whose name is lost; M. Beaudouin and E. Pottier, "Inscriptions de Pompeiopolis," BCH 4 (1880) p. 76, set up by the Boule and Demos in honour of a priest of Athena, Artemidoros; Heberdey and Wilhelm, p. 44, no. 104 in honour of a P. Aelius Aurelianus Ariston, and no. 105 in honour of Poseidia Prima.

13. For these same tendencies accentuated and utilized in the Byzantine period to create an over-all stylized pattern of lines on the kalathos, see R. Kautzsch, Kapitellstudien, Beiträge zu einer Geschichte des Spätantiken Kapitells im Osten (Berlin, Leipzig 1962) Pl. 15C a capital from Constantinople.

14. See E. Weigand, "Baalbek und Rom, die römische Reichkunst in ihrer Entwickelung und Differenzierung," JDAI 29 (1914) Fig. 21 and Butler, PPAES II A Ill. 291 and Pl. XIX. The stylization of the inner leaves of the acanthus calyx into a non-vegetal arched band beneath the spirals of the helices is noticeable on capitals belonging to the Severan period and later. See P. Pensabene, Scavi di Ostia VII. I Capitelli (Rome 1975) Pl. XXXV, nos. 347, 348, 355; Pl. XXXVI, nos. 356, 359; Pl. XXXVII, nos. 362-366, 368, 371, 373; Pl. XXXVIII, nos. 374, 375, 380; W. Hoepfner, Herakleia-Pontike-Ereğli. Eine baugeschichtliche Untersuchung (Forschungen an der Nordküste Kleinasiens. Band II,1. Österreichische Akademie der Wissenschaften. Phil.-Hist. Klasse. Denkschriften Band 89) (Vienna 1966) Pl. 12b and p. 84. Other Severan capitals which are comparable can be found at Samaria-Sebaste. See J. W. Crowfoot, K. M. Kenyon, E. L. Sukenik, Samaria-Sebaste I. The Buildings at Samaria (London 1942) Pl. XLVIII, 2; Pl. LXXXIV, 4-6 and p. 36.

15. C. Kraeling, Gerasa. City of the Decapolis (New Ha-

ven 1938) pp. 402-3, no. 60 for the dedication.

16. For the general characteristics of Eastern Corinthian in the first half of the second century see D. Schlumberger, "Les formes anciennes du chapiteau corinthien en Syrie, en Palestine et en Arabie, Syria 14 (1933) pp. 291-302.

17. R. Kautzsch, op. cit. (n. 13), Pl. 1, 1 and p. 6; note especially the rudimentary helices, the abacus and the outline and carving.

18. Ibid Pl. 1,6 and p.7.

19. Ibid. Pl. 1, 4 and p. 7.

20. Ibid. Pl. 51, f and Pl. 52, k and p. 237.

21. Ibid. Pl. 1, 7 and p. 8.

22. See E. von Mercklin, Antike Figuralkapitelle (Berlin 1962) p. 191, no. 465 a-d where four of the capitals are described only on the basis of personal communication from R. Paribeni, who had examined them. See also R. Paribeni and P. Romanelli, "Nell'Anatolia Meridionale," Mon. Ant.23 (1914) p. 89.

23. Von Mercklin, op. cit. passim; he collects together in his monumental work figured capitals of all periods and from all areas.

24. Ibid. p. 91

25. Loc. cit.

26. Loc. cit. Von Mercklin identified them as a helmeted Athena and a god with a thick beard, possibly Hades.

27. Ibid. fig. 560, no. 314 and p. 112, a capital in the Musee Lapidaire in Vienne. This is the best parallel for the general impression created by a complete Corinthian capital with only the helices and central fleuron replaced by the shoulders and head of a relatively small figure. The capital exhibits leaves of a typically Eastern type with strongly marked folioles. There are no helices indicated. It is dated to the second century by von Mercklin who does not agree with Weigand's dating of it to the first century (see E. Weigand, op.cit.(n. 14) p. 58). The leaf style, the fact that the acanthus calyx is closed around the volutes for half their length with a tier of three triangular voids formed at the point where the inner and outer leaves of each calyx touch, and the fact that the upper row of leaves takes

as its point of departure the top of the second foliole of the lower leaves all preclude Weigand's first century date. Figs. 555 and 556, no. 313 and p. 112, a capital in the Toulouse Museum: since the capital is of the Western type, its elements have little that is comparable stylistically to the Soli capital. The placement of the heads, however, is the same. The capital is dated to the third quarter of the first century on the basis of the hairstyle of the female heads. Figs. 438-440, no. 231 and p. 95, built into an early Byzantine church at Stobi but dated to ca. A.D. 200: it is very similar to the Soli capital with the exception of the helices, of which the lower portion is shown on either side of the head. Fig. 464, no. 245 and p. 98, a capital in the Badisches Museum in Karlsruhe which comes from the Mithraeum in Neuenheim. Again it is a western Corinthian capital and hence the style of the leaves and volutes cannot be compared. Nevertheless one sees the same sort of small bust set at the top of the capital, replacing helices and central fleuron. The capital dates to the first third of the third century.

28. Ibid. p. 140

29. The enigmatic nature of this head and the reasons for some uncertainty in calling it a theatre mask can be understood when one looks at capitals that definitely do depict such masks. Ibid. Figs. 710-1, no. 374; Fig. 1056, no. 561; Figs. 720-23, no. 378; Figs. 709, 712-15, no. 379 b.

30. Ibid. p. 191.

31. Ibid. e.g. Figs. 834-37, no. 431.

32. Ibid. e.g. Figs. 802-7, no. 413 a-b.

33. Heilmeyer, Normalkapitelle Pl. 33.1

34. Ibid. p. 96

35. Von Mercklin, op. cit. p. 191; for another representation of a Dioscuros capital see M. Vickers, "Observations on the Octagon at Thessaloniki," JRS (63 (1973) Pl. XIV, 3 and p. 117.

36. Von Mercklin, loc. cit.

37. See for example Ibid. Figs. 737-40, no. 384; Fig. 765, no. 386; Fig. 767, no. 389 b; Figs. 802-7, no. 413 a-b; Fig. 809, no. 411; Fig. 838, no. 436.

38. See Ibid. p. 221 and, for example, Figs. 1032, 1034-5, no. 547; Fig. 1038, no. 550 a; Fig. 1047, no. 554; Fig. 1048, no. 555; Fig. 1049, no. 556. A pilaster capital with eagles on the corners is known from Rome, Fig. 1044, no. 552, but the birds, in fact, take up most of the capital and are not merely replacing the volutes. The same can be said of Fig. 1050, no. 557, a pilaster capital from Syracuse.

39. See E. Kitzinger, "The Horse and Lion Tapestry at Dumbarton Oaks," Dumbarton Oaks Papers 3 (1946) Figs. 90-102.

40. G.M.A. Hanfmann and A.H. Detweiler, "Report on the Excavations at Sardis in 1959," TAD 10 (1960) p. 35 and Pl. XXXV, Figs. 37 and 38; Hanfmann and Detweiler, "The Fourth Campaign at Sardis (1961)," TAD 11 (1961) p. 42 and Pl. XXXIV, Fig. 12 and 13. Note also that TAD 10 (1960) Pl. XXXV, Fig. 37 is a helmeted head of Athena, a figure also found at Soli on Capital 1 of Group III (see above, n. 26). When these capitals first started to appear, the excavators called them mid-second century A.D. but further investigation of the Marble Court Area has led to the conclusion that these capitals belong to the Severan embellishment of the area (TAD 11 (1961) p. 42 and von Mercklin, op. cit., p. 313). For the Severan inscription that provides the date for the work on the Marble Court see Hanfmann, "Sardis Excavations 1961," Archaeology 15 (1962) p. 59 and "Excavations at Sardis-1960," AJA 65 (1961) p. 189.

41. K.T. Erim, "Aphrodisias, 1965 Campaign," TAD 15.1 (1966) p. 60; "Aphrodisias, 1966 Campaign," TAD 15.2 (1966) p. 57; K.T. Erim, "The Ninth Campaign of Excavations at Aphrodisias in Caria 1969," TAD 18.2 (1969) p. 90 and p. 102, Fig. 20. The last is a capital with the complete figure of an Eros used in place of the central fleuron and helices. Apart from the fact that it has a figured element, the form on this particular capital cannot be compared to the Soli examples since it follows the more usual practice of removing one row of acanthus leaves entirely in order to accommodate the figure. The vegetal volutes, as well, make of it a variant of normal Corinthian. The other figured capitals discovered so far are not illustrated.

42. My thanks are due to Professor P. Verzone who allowed me to look at material in the depot.

43. For a discussion of this school see Heilmeyer, Normalkapitelle, pp. 97 ff.

44. For example, D.E. Strong, "Septimius Severus at

Lepcis Magna and Cyrene," The Society for the Promotion of Libyan Studies, Fourth Annual Report (1972-73) Pl. VIIa = von Mercklin, op. cit. fig. 863, no. 445.

45. Strong, op. cit. (n. 44) p. 32.

46. For example, Kautzsch, op. cit. (n. 13) Pl. 28, nos. 458 and 460; Pl. 29, nos. 462, 464, 465, 466, 468, 471 and 476.

47. See, for example, ibid. Pl. 28, no 453 and p. 140, a capital from Damascus which is dated to the end of the second or beginning of the third century. Its general composition is similar to the Soli capital; Pl. 28, no. 455 and p. 140 in the museum garden at Smyrna, dated to the third century; von Mercklin, Figuralkapitelle Fig. 863, no. 445 for a Severan example. It differs from the Soli capital in that the leaves are set at a much greater angle.

48. The blocks resting on the capitals visible in Pl.63a and Pl. 64c do not come from the entablature of the colonnade but seem to have been set there in random fashion at some later time. They may well be the start of arches springing directly from the columns and could date from a later reconstruction done hastily since the blocks do not fit the size of the colonnade.

49. See M. Wegner, Ornamente Kaizerzeitlichen Bauten Roms. Soffiten (Köln-Graz 1957) p. 55

50. E. Weigand, op.cit. (n. 14) p. 85, fig. 40 which dates to the third century.

51 Wegner, op. cit. (n. 49) p. 53.

52. For a good reconstruction of the usual arrangement see TAD 17, 1 (1968) p. 16, fig. 5.

53. At the north end of the street the modern ground level in the roadway is in places as high or higher than the stylobate. It is likely that this represents recent fill since much modern construction has gone on immediately to the north but it is possible that the roadway was not disturbed for its whole length. It is to be hoped that a future exacavation might reveal something useful here.

54. Heberdey and Wilhelm, p. 44, no. 103 = IGR III 870. According to the authors and as is evident from their drawing, there is no room on the console for more than the given restoration.

55. CIG 4434 = Duchesne, op. cit. (n. 14) p. 316, no. 1.

56. Wiegand, op. cit. (n. 14) p. 162, no. 5.

57. If this is the case, the stonemason was either incompetent or copied the originals directly. Note the ὐον and ὐιον and the duplicated στ. The style of the letters would perhaps have helped to solve the problem of whether we are dealing with original or recut inscriptions but unfortunately the crucial consoles have disappeared since they were first recorded.

58. Schlumberger, op. cit. (n. 16) p. 298 and n. 2.

59. Beaudouin and Pottier, op. cit. (n. 12) p. 76

60. Duchesne, op. cit. (n. 12) p.317, no. 2.

61. See D. Magie, Roman Rule in Asia Minor (Princeton 1950) p. 709 and Boyce, op. cit. (n. 1)p. 67, n. 3 where the author quotes Script. Hist. Byz. George Syncellus, vol I, p. 716, who mentions the event.

62. That these inscriptions belong to the Byzantine period rather than the second or third century seems likely from their very nature and position. More important, however, is the fact that most of the terms used to designate the trades are not attested before the Edict of Diocletian: λανάριος 21.1.1a; ὑποραφός written ὑπορραφή 7.48.50, 51; πλουμάριος and related words are known only from the fourth century onwards. The last word seems to appear first in the form ἡ πλουμαρίσις= embroidery in the Edict at 19.6.25.

63. Duchesne, op. cit. (n. 12) p. 318 = CIG 4436.

64. Heberdey and Wilhelm, p. 44, no. 106.

65. loc. cit. no. 107

66. loc. cit. no. 109.

67Kraeling, op. cit. (n. 15) pp. 409-11, nos. 75-82 and pp. 412-4, nos. 87-104.

68. CIG Addenda 4436b.

69. No excavation has ever been undertaken at the site and the only works dealing in any detail with the remains are E. Rosenbaum, G. Huber, S. Onurkan, A Survey of Coastal Cities in Western Cilicia (Ankara 1967) pp. 18-29 and S. Erdimgil and F. Ozoral, "Antiochia ad Cragum," TAD 22.2 (1975) pp. 55-71.

70. For the inscription that names the goddess Roma, see G. Bean and T. Mitford, Journeys in Rough Cilicia in 1962 and 1963 (Vienna 1965) p. 34, no. 36.

71. Ibid., nos. 41 and 42.

72. The only report on this site as a whole is found in K. Lanckoronski, Städte Pamphyliens und Pisidiens II (Vienna 1890) pp. 127-156 (herafter Städte II). A short account of recent Austrian work here is to be found in R. Fleischer, "Sagallassos," Öst.Arch. Inst. Grabungen 1971/2 (=JÖAI 50 (1972) 74, Grabungen 1971/72) pp. 63-5.

73. Stadte II p. 129, fig. 101, p. 130; IGRP III, 348.

74. Ibid. p. 133, fig. 104.

75. IGRP III, 344.

76. See Chapter V, note 100.

77. Stadte II, inscription no. 196.

78. D. di Bernardi Ferrero, Teatri classici di Asia Minore II (Rome 1969) pp. 37ff.

79. The site has only been briefly described in the publications. See Lanckoronski, Städte II pp. 178-82; R. Fleischer, "Selge," Öst.Arch.Inst. Grabungen 1968 pp. 19-23; A. Machatschek, "Baugeschictliche Forschungen in Selge (Pisidien)," Forschungen und Berichte 18 (1977) pp. 177-85.

80. Machatscheck, op. cit. p. 183.

81. A short report on the site appears in Städte II pp. 162-67 and the Forum-Basilica complex has been more thoroughly studied by John Ward-Perkins and M.H. Ballance in "The Caesareum at Cyrene and the Basilica at Kremna," PBSR 26 N.S. 13 (1958) pp. 137ff. Recent Turkish excavations conducted by Prof. Jale Inan at the site have not yet been published.

82. J.J. Coulton, The Architectural Development of the Greek Stoa (Oxford 1976) p. 180.

83. CIL III, 6874.

84. Ward-Perkins and Ballance, op. cit. (n. 81) p. 170 noted the possibility of a decorative entrance.

85. See the forthcoming article on this group by Susan Walker in the AA.

86. See n. 14 for parallels for these capitals.

87. W. Hoepfner, Forschungen an der Nordküste Kleinasiens II,1. Herakleia Pontike-Eregli (Vienna 1966) plate opposite p. 29, (a). Note also the similarities between the capitals from this building and from Severan buildings in Herakleia-Pontike and the capitals from the street at Kremna, Pls. 12-19 and pp. 82 - 91.

88. K. Lanckoronski, Städte II pp. 54 - 56.

89. Ibid, nos. 111, 117, 122.

90. A few references to Olba can be found in Y. Boysal, "Uzuncaburc ve Ura Kilavuzu," Milli Egitim Bakanligi Eski Eserler ve Müzeler Genel Müdürlügü yayini 1, 15 (Istanbul 1963) pp. 12 - 15; E. Herzfeld, "Hellenistisches aus Kilikien: Olba die Stadt der Teukriden," AA (1909) pp. 434 - 441; J. Keil and A. Wilhelm, MAMA III pp. 80 - 83.

91. See Chapter V, n. 36.

92. Kautzsch, Kapitellstudien Pl. 4, no. 32 and p. 23.

93. op. cit. (n. 90) p. 87, no. 104.

94. There is no comprehensive publication of the Sacra Via. Scattered references occur in O. Deubner, Das Asklepieion von Pergamon (Berlin 1938) pp. 23 - 25; O. Ziegenus and G. de Luca, "Die Ausgrabungen zu Pergamon im Asklepieion. Vorläufiger Bericht über die Abschlussgrabungen der Jahre 1967 - 1969 im Anschluss an die Arbeitskampagne 1966," AA 85 (1970) pp. 181 - 192; O. Ziegenus and G. de Luca, Altertümer von Pergamon XI,2. Das Asklepieion (Berlin 1975) pp. 44 - 54 (hereafter Das Asklepieion). Dr. E. H. Williams noted that there was a lack of any full report in his recent review of the above publication in AJA 82 (1978) pp. 129 - 130. The omission is particularly noticeable since the authors had promised a full excavation report on the via tecta several years ago.

95. Das Asklepieion pp. 44 - 46.

96. op. cit. (n. 94) p. 23, fig. 13.

97. C. Habicht, Die Inschriften des Asklepieions (Berlin 1969) no. 157, p. 154.

98. Ibid, pp. 9 - 10. The author collects together all

the available epigraphic and literary evidence.

99. Das Asklepieion p. 54.

100. C. Habicht, op. cit. (n. 97) nos. 141 and 8.

101. "Late Hadrianic Architectural Ornament in Rome," PBSR n.s. 8 (1953) p. 132 and fig. 4.

102. Mention is made of the colonnaded area in G. Kawerau and A. Rehm, Milet. Ergebnisse der Ausgrabungen und Untersuchungen seit dem Jahre 1899. III. Das Delphinion von Milet (Berlin 1914)p. 159; A. von Gerkan, Milet I,6 Der Nordmarkt und der Hafen an der Löwenbucht (Berlin Leipzig 1922) pp. 45 - 55, 92 - 96; H. Knackfuss, Milet I,7. Der Südmarkt und die benachbarten Bauanlagen (Berlin 1924) pp. 211 - 216.

103. For architectural details and dating see G. Kleiner, Die Ruinen von Milet (Berlin 1968) p. 65 and H. Knackfuss, op. cit. (n. 102) pp. 69, 82 - 83, figs. 66 - 69, pp. 94 - 95, figs. 82 - 84, p. 149.

104. G. Kleiner, op. cit. (n. 103) pp. 97 - 98, figs. 28, 69.

105. For the type see M. Wegner, "Ornamente Kaiserzeitlicher Bauten Roms, Soffiten," Münstersche Forschungen Heft 10 (Köln-Graz 1957) p. 2 and fig. 2.

106. Th. Wiegand, Milet I,V. Das Nymphaeum (Berlin, Leipzig 1919). For the inscription, pp. 53 - 54.

107. Very little remains on the ground now and what is left is often under water. For a reconstruction see A. von Gerkan, op. cit. (n. 102) Pl. XXVIII.

108. A survey of the remains appears in C. Humann, C. Cichorius, W. Judeich, F. Winter, Altertümer von Hierapolis (Berlin 1898). Excavations have been conducted on the site since 1957 by an Italian team led by P. Verzone. Their effort has been concentrated in the theatre which is being reconstructed. Some general work is described in P. Verzone, "Ausgrabungen von Hierapolis in Phrygien-Vorläufiger Bericht über die Resultate der Forschungsreise 1958," TAD 9 (1959) pp. 7 - 8 and "L'Urbanistica die Hierapolis di Frigia," Atti de XVI Congresso di Storia dell'Architettura (1969).

109. E. Akurgal, Ancient Civilizations and Ruins of Turkey (Istanbul 1973) p. 177.

110. G. Cacettoni, "Scavi del Tempio di Apollo a Hierapolis," Annuario della Scuola Archaeologica di Atene 41 - 42 (1963 - 64) pp. 411 - 433 and "Hierapolis(1972)," in "Recent Archaeological Research in Turkey," Anatolian Studies 23 (1973) pp. 40 - 21.

111. Das Asklepieion, Pls. 15 a and b, 114.

112. Lanckoronski, Städte I pp. 81 - 83, fig. 66.

113. "L'Urbanistica die Hierapolis di Frigia," Atti de XVI Congresso di Storia dell'Architettura (1968) p. 5.

114. H. C. Butler, Syria IIB (Leyden 1920) p. 156 and PAAES II (New York 1903) p. 70, fig. 26.

115. Alexander's Path: from Caria to Cilicia (New York 1958) p. 17.

116. Heberdey and Wilhelm, p. 61.

APPENDIX I: NOTICES OF COLONNADED STREETS IN THE EASTERN MEDITERRANEAN OUTSIDE ASIA MINOR

SITE	TYPE	SOURCE
Beirut	Decumanus; a few columns found beneath a modern street	R. Mouterde and J. Lauffrey, Beyrouth, Ville romaine (Beirut 1952) p. 28.
Beroaea (Aleppo)	Decumanus: colonnaded from the Antioch Gate to the citadel; it led past public monuments such as the agora.	J. Lauffrey, "L' urbanisme antique en Proche Orient," Acta congressus Madvigiani IV (1954) (Copenhagen 1958), p. 13.
Byblos	Main street: from acropolis to lower town	R. Saidah, "Archaeology in the Lebanon 1968-1969," Berytus 18 (1969) p. 123.
Cos	Decumanus: traces of porticoes in the public sector; dated on stylistic grounds to early 3rd c. From descriptions it is more likely to be a form of Italic street management. Note dimensions: roadway-4.45 m., porticoes-2.20 m. and 3.85 m.	L. Morricone, "Scavi e richerche a Coo (1935-1943) Relazione preliminare," Boll. d'arte (1950) pp. 234-36.
Cyrrhus	Cardo: traces of columns found (may be Byzantine; see Lauffrey, op. cit., p. 16)	E. Frézouls, "L' exploration archéologique de Cyrrhus," in J. Balty (ed.), Apamée de Syrie: Bilan des recherches archéologiques 1965-68 (Bruxelles 1969) pp. 81-92.
Rhodes	Main street reputed to have had colonnades	R. Martin, L'Urbanisme dans la Grèce antique (Paris 1961), p. 149.

Seleucia Pieria	Street from market-gate to agora.	R. Stillwell (ed.) Antioch-on-the-Orontes III. The Excavations 1937-1939 (Princeton 1941) p. 3.
Soloi (Cyprus)	Decumanus leading from agora to city-gate;dated on stylistic grounds to early third century. (Pl. 95b)	N. Robertson (ed.) The Archaeology of Cyprus. Recent Developments (New Jersey 1975)
Thessaloniki	Decumanus (=Via Egnatia)	E. Dyggve, "Le region palatiale de Thessalonique," Acta Congressus Madvigiani I (1954) (Copenhagen 1958)pp. 353-365; M. Vickers "Hellenistic Thessaloniki," JHS 92 (1972) pp. 156-170.
Tyre	Decumanus partially excavated for 170m. Width of roadway is 11.80 m. The order is Doric. Mosaic pavement of roadway perhaps indicative of pedestrian mall.	M. Chéhab, "Tyr a l'époque romaine," Mélanges de l'Universite de Saint-Joseph (Beyrouth) 38 (1962) pp. 13-14; idem, "Découvertes récentes au Liban relative à l'archéologie classique," AAAS 21 (1971) pp. 159-163.

That many more streets remain to be noticed from this area may perhaps be indicated by a remark attributed to T. E. Lawrence by Sir Leonard Wooley: "that (he) had personally discovered traces of over 120 colonnaded towns within a 20-mile radius of Aleppo." (J. Huxley, From An Antique Land (New York 1968) pp. 145-146).

APPENDIX II: NOTICES OF COLONNADED STREETS IN ASIA MINOR

SITE	TYPE	SOURCE
Ancyra	Fragmentary portions found but not integrated into any plan of Roman Ankara. Corinthian order looks Severan although author says "Hadrianic or later" (fig. 5).	R.O. Dalman, "Archäologische Funde in Ankara 1931," AA 47 (1932) cols. 233-240.
Anemurium	Traces of stylobates, possibly for porticoes of limited extent, along a cardo.	Unpublished. Personal observation.
Augusta Ciliciae	Intersecting cross plan; Corinthian. (Now under a reservoir).	M. Gough, "Augusta Ciliciae," AS 6 (1956) pp. 175-176.
Corycus	Line of bases near the temple's foundations -possibly a colonnaded street from the harbour to the city.	V. Langlois, "Voyage dans la Cilicie," RA 12 (1885) pp. 129-147. E. Herzfeld and S. Guyer, MAMA II pp. 175-176.
Helenopolis (Bithynia)	Justinian built "stoas" - probably to be interpreted as street embellishment.	Procopius, de aed. V,2,5.
Iotape	A few remains are identified as coming from a colonnaded street.	J. Keil and A. Wilhelm, "Vorläufiger Bericht über eine Reise in Kilikien," JÖAI 18 Beiblatt 1915, col. 13.
Laodicea ad Lycum	Possible cross-plan. Traces of porticoes of modest dimensions at the intersection of the cardo and decumanus where the nymphaeum stands. Personal observation on the site revealed a few stylobate blocks in a line and in one place three pedestals with Attic-Ionic bases.	J. des Gagniers, P. Devambez, L. Kahil, R. Ginouves, Laodicée du Lycos. Le Nymphée (Campagnes 1961-1963) (Quebec, Paris 1969) pp. 16, 61-65, fig. 50.

Melitene	Procopius describes how the original Trajanic camp grew into a regular city with "streets and stoas".	Procopius, de. aed. III,4,18.
Nicomedia	A two-story colonnade on either side of a main street for its whole length is reported by Libanius. Columns and architectural fragments possibly from the colonnaded street found in road operations in 1975.	Libanius, Or. 61,7. στοῶν δύο δυασι διειλημμένη διακούσαις τοῦ παντός "Recent Archaeological Research in Turkey," AS 26 (1976) p. 44.
Prusias ad Hypium	Construction of an irrigation canal in 1973 revealed remains of a colonnaded street leading from a Roman bridge to the city proper. It was destroyed by the modern work.	"Recent Archaeological Research in Turkey," AS 24 (1974) p. 38.
Sinope	Literary evidence for "colonnades". Strabo says the town was adorned with them along with other public buildings.	Strabo. XII,3,11.
Smyrna	Remains of colonnaded street found during construction operations on Eşref Paşa Road in the 1930's. A few records were made of the 10 m. wide roadway with porticoes on possibly only one side. Now destroyed. Strabo, Geog. XIV,1, 37, despite some notices to the contrary, mentions nothing about colonnaded streets. He talks about porticoed courtyards.	E. Akurgal, Ancient Ruins of Turkey (Ankara 1973) p. 122. R. Naumann and S. Kantar, "Die Agora von Smyrna," Kleinasien und Byzanz (Berlin 1950) pp. 71-72, Plan 1.
Tarsus	Literary evidence for stoas along streets here. Tarsus is cited along with Antioch as having such an architectural arrangement.	Dio Chrysostom. 47, 15-17.

Casual references to Nicaea and Attaleia often mention their colonnaded streets but a closer look at the sources cited as proof reveals no evidence in literature for these streets. Nothing remains on the ground in either city and while it is indeed possible that their main thoroughfares were embellished in some way, it is incorrect to point to the evidence of ancient documents. Strabo (XII,4,7) describes Nicaea only as having a very regular plan based on the standard format of crossing cardo and decumanus joining four city-gates. For Attaleia a colonnaded street has been created out of an inscription dating to the reign of Claudius which mentions specifically the paving only (W. M. Ramsay, "Unedited Inscriptions of Asia Minor," BCH 7 (1883) pp. 258-260).

LIST OF ABBREVIATIONS

AA	Archäologischer Anzeiger in Jahrbuch des deutschen archäologischen Instituts
AAAS	Annales archéologiques arabes syriennes
Acta Arch.	Acta Archeologica
ADAJ	Annual of the Department of Antiquities of Jordan
AJA	American Journal of Archaeology
AS	Anatolian Studies
BASOR	Bulletin of the American Schools of Oriental Research
BCH	Bulletin de correspondence hellénique
BEO	Bulletin d'études orientales
Boll. d'arte	Bollettino d'Arte
BZ	Byzantinische Zeitschrift
CIL	Corpus inscriptionum latinarum
Dio Chrysostom Or.	Dio Chrysostomus, Orationes
DOP	Dumbarton Oaks Papers
Heilmeyer	W. D. Heilmeyer, Korinthischen Normal-kapitelle (Heidelberg 1970)
IG	Inscriptiones Graecae
IGRP	Inscriptiones Graecae ad res Romanas pertinentes
Ist. Mitt.	Istanbuler Mitteilungen
JDAI	Jahrbuch des deutschen archäologischen Instituts
JEA	Journal of Egyptian Archaeology
JHS	Journal of Hellenic Studies

JÖAI	Jahreshefte des Österreichischen Archäologischen Instituts in Wien
Josephus, Ant.	Josephus, Antiquitates Judaicae
Josephus, Bell. Jud.	Josephus, Bellum Judaicum
JRS	Journal of Roman Studies
MAAR	Memoirs of the American Academy in Rome
Mon. Ant.	Monumenti Antichi pubblicati per cura della Reale Accademia dei Lincei
PBA	Proceedings of the British Academy
PBSR	Papers of the British School at Rome
PEQ	Palestine Exploration Quarterly
PPAES IIA IIB	Publications of the Princeton Archaeological Expeditions to Syria. II. Ancient Architecture A. Southern Syria (Leyden 1919) B. Northern Syria (Leyden 1920)
Procopius, de Aed.	Procopius, De Aedificiis
Procopius, Bell. Pers.	Procopius, De Bello Persico
Procopius, Bell. Goth.	Procopius, De Bello Gothico
RA	Revue archéologique
RB	Revue biblique
RE	Pauly-Wissowa, Realencyclopädie der classischen Altertumswissenschaft
Script. Hist. Byz.	Scriptores Historiae Byzantinae
Strabo, Geog.	Strabo, Geographia
Tacitus, Ann.	Tacitus, Annales
TAD	Türk Arkeoloji Dergisi
TAPA	Transactions of the American Philological Association
Vitruvius	Vitruvius, De Architectura

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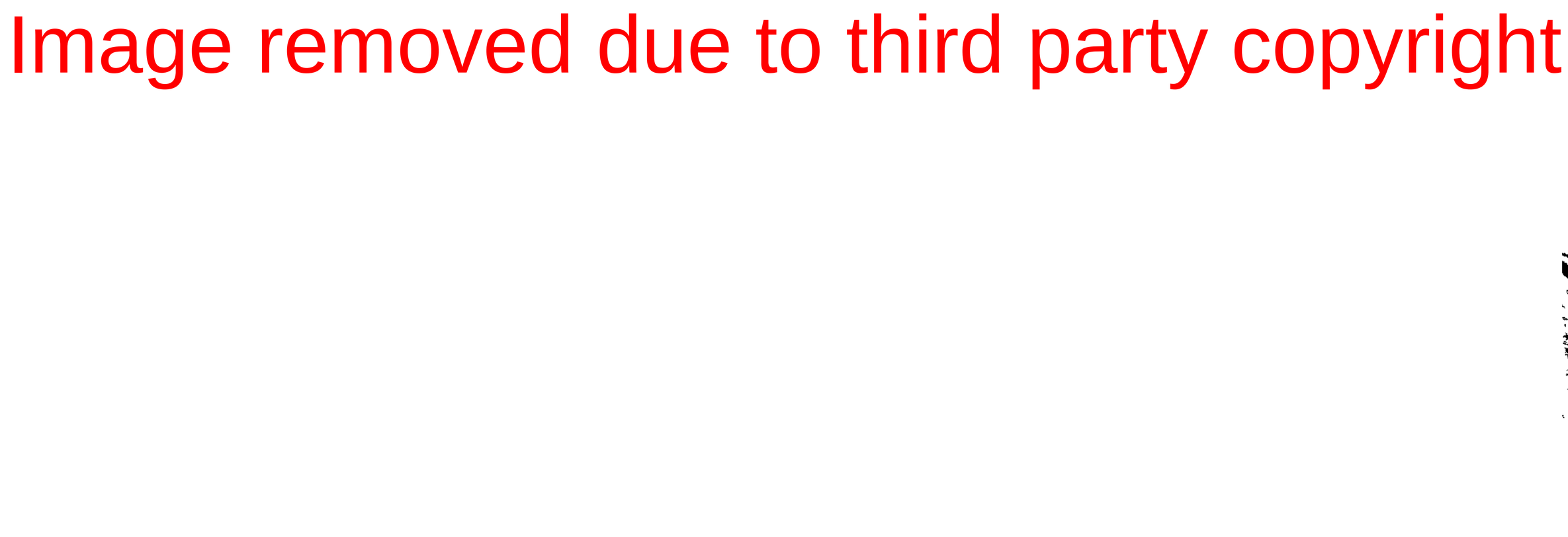

Figure 1 Corinth - Gateway to Lechaion Road

Figure 2 Palmyra - Tetrapylon

Figure 3 Bostra - the Tetrapylon

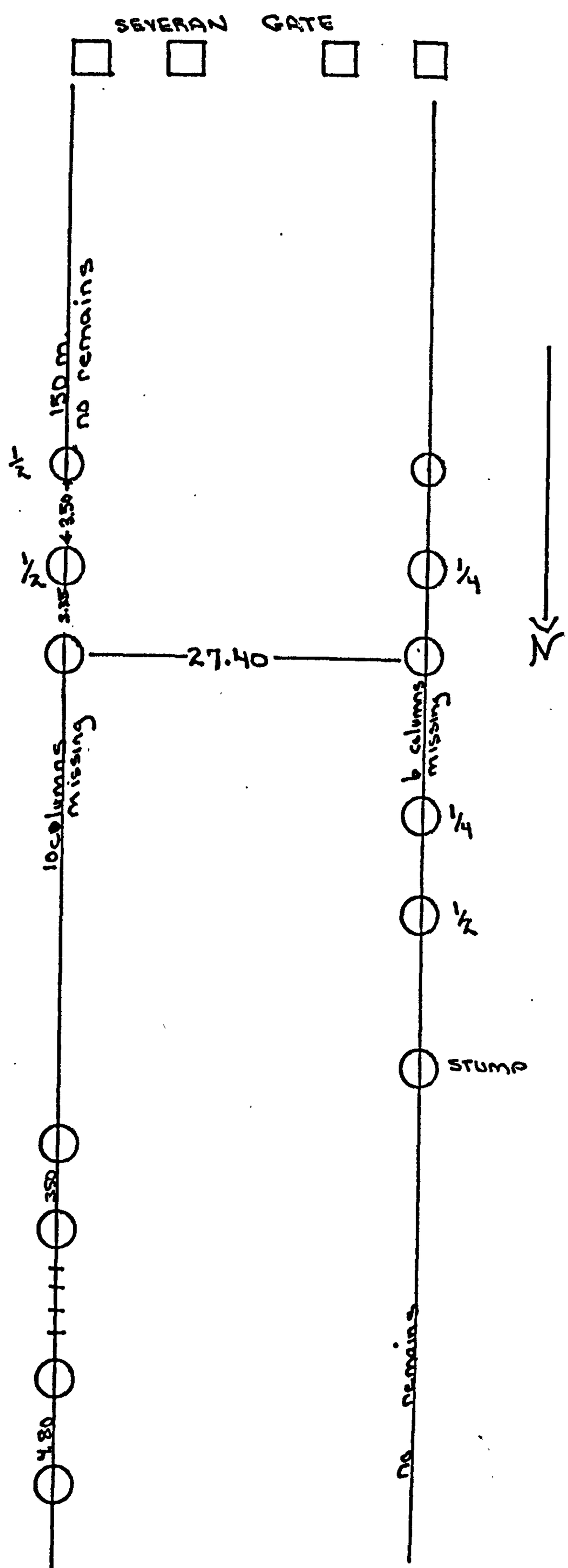

Figure 4 Anazarbus - the Cardo: Schematic Lay-out

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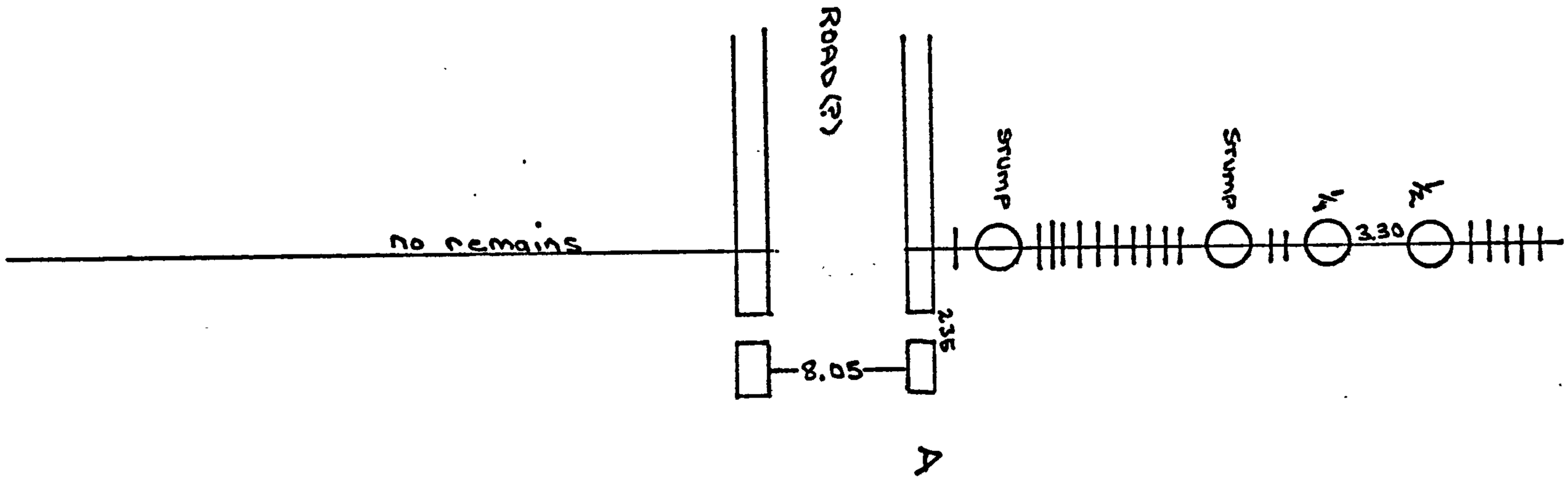
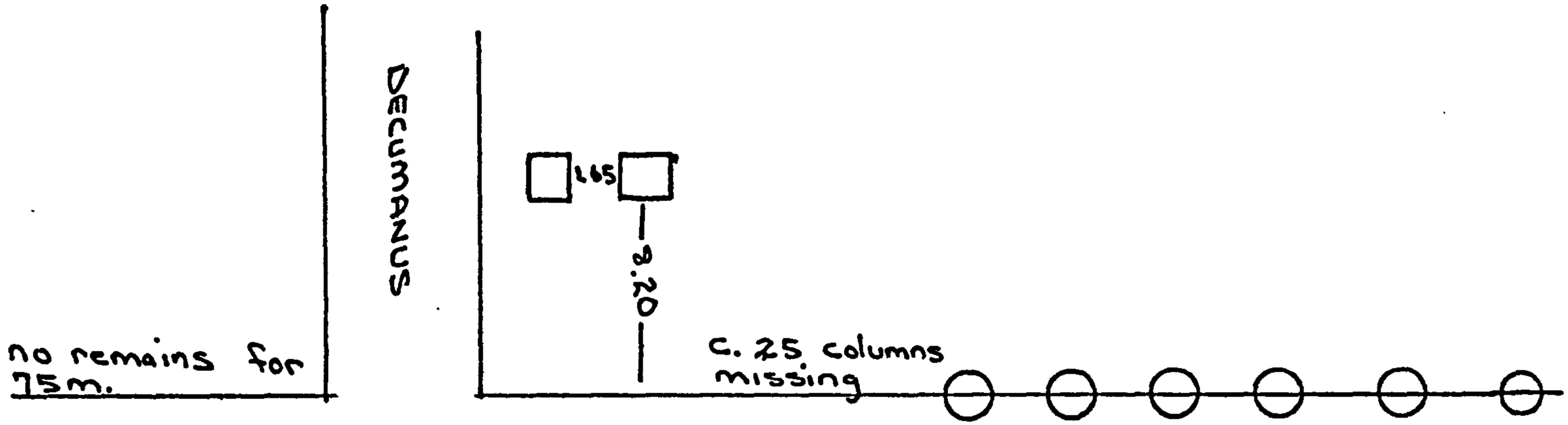

ROAD (?)
stump
stump
3.30
no remains
8.05
2.35
A
no remains
for c. 25
intercolumniations
ROAD (?)
2.35
no remains

continued....



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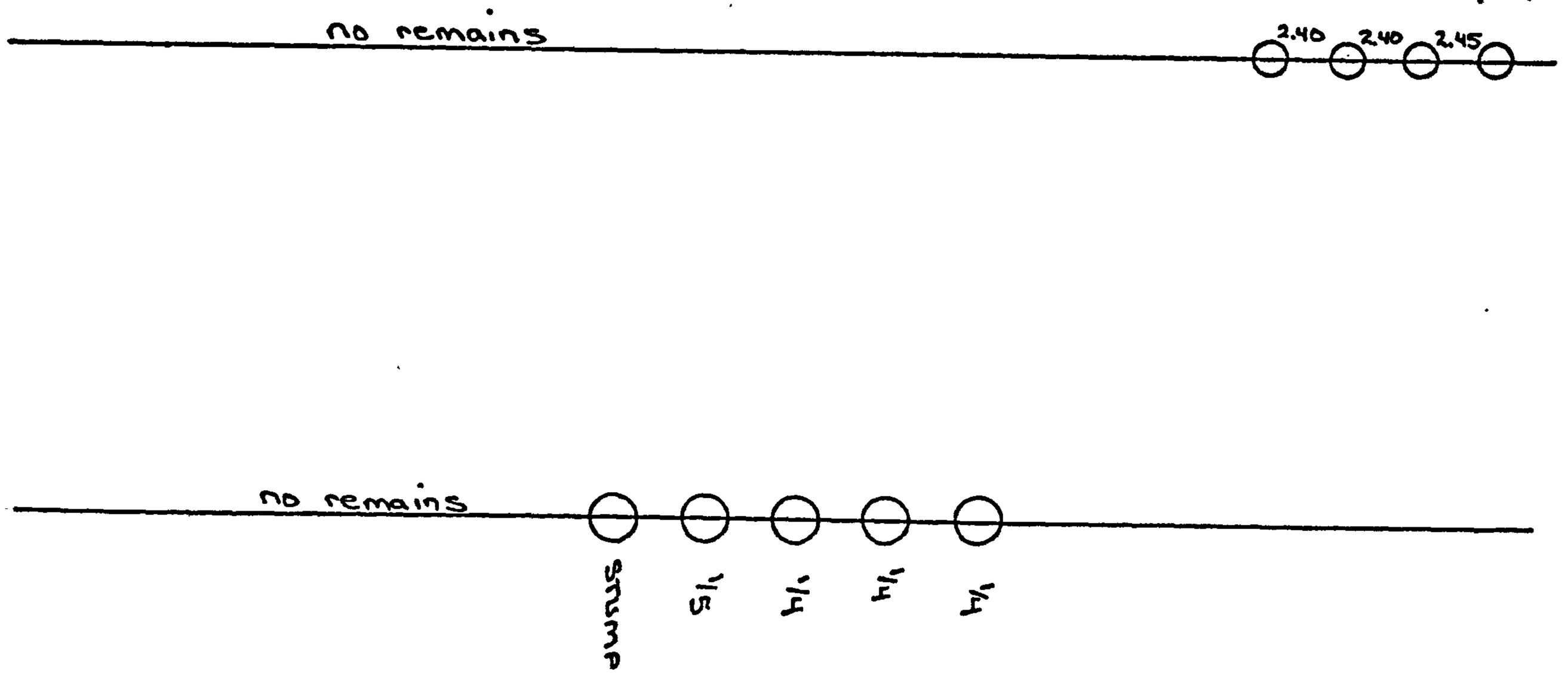
AGORA ?
4 smaller columns lower D.: 0.55m.
no remains
2.40
2.40
2.45
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spring
5½'
4½'
4½'
4½'

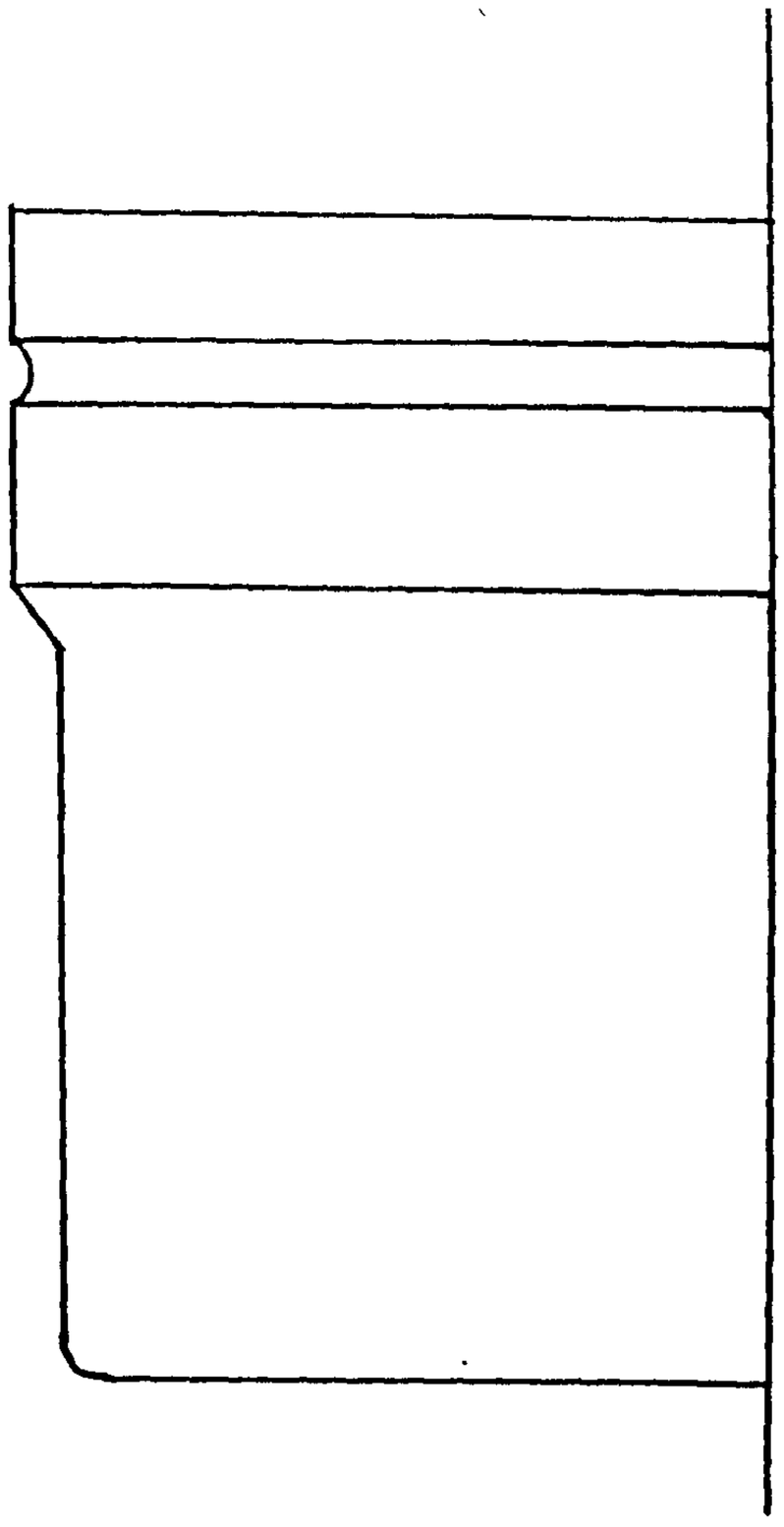


Figure 5 Anazarbus - Console 1:6

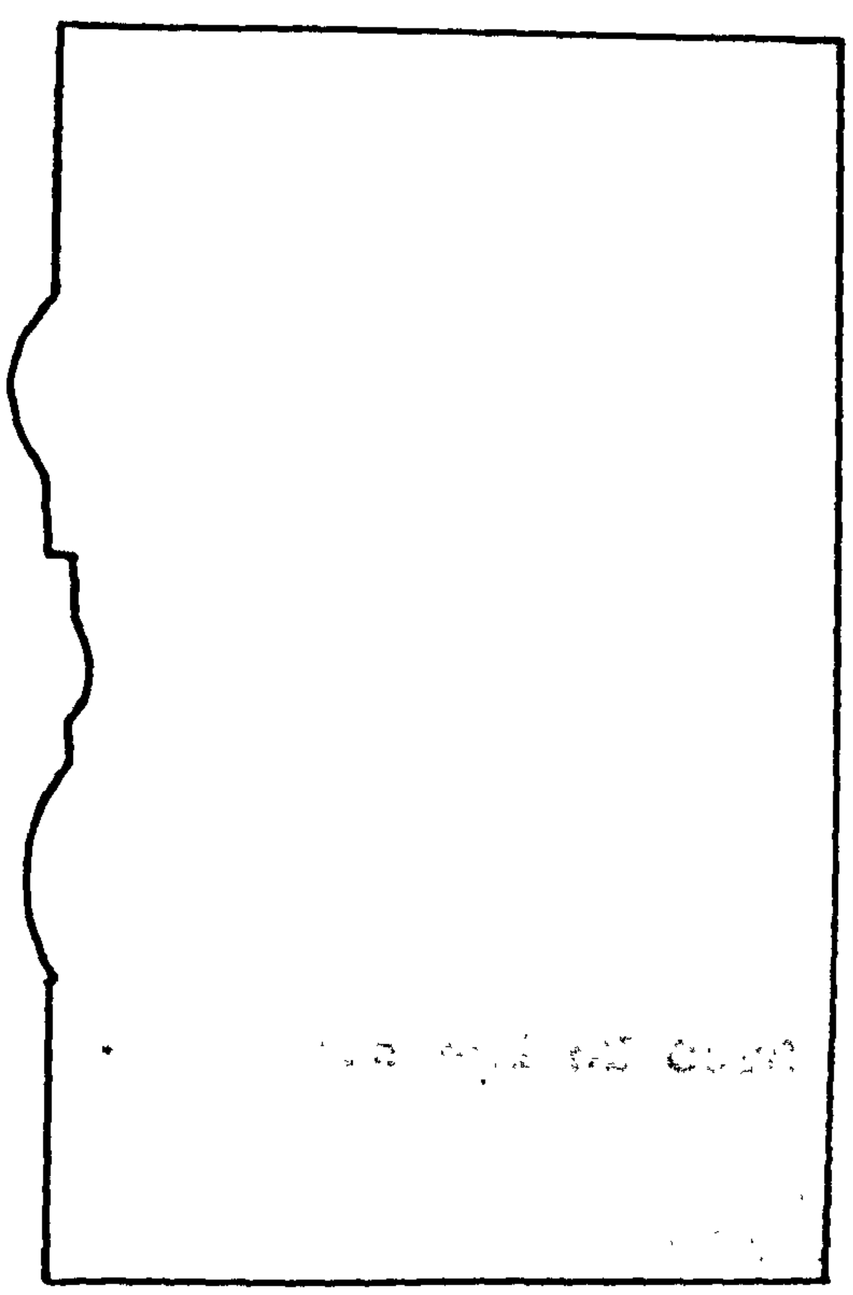


Figure 6 Anazarbus - Entablature block 1:6

Figure 7 Perge - South end of Cardo

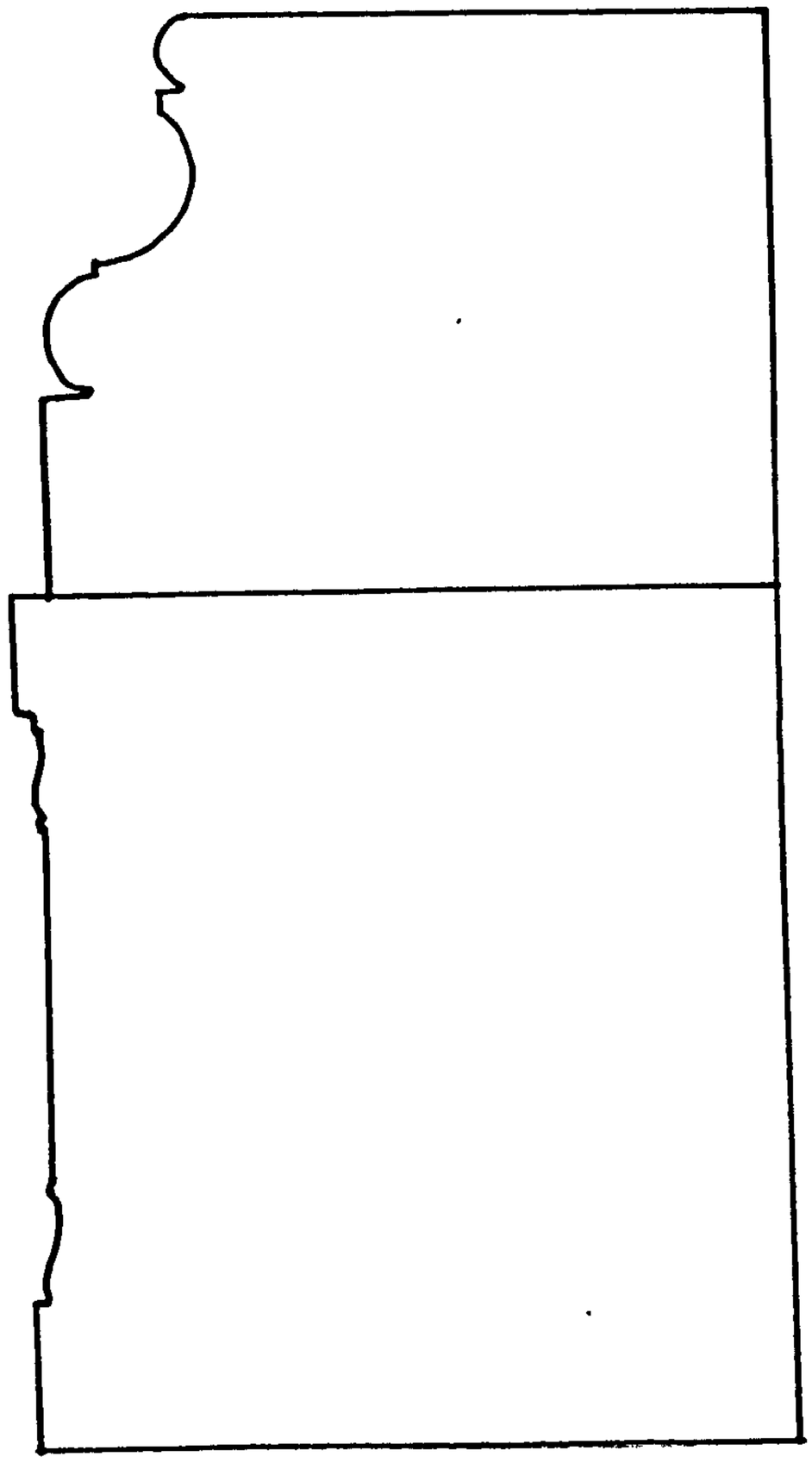


Figure 8 Perge - Base and Pedestal 1:6

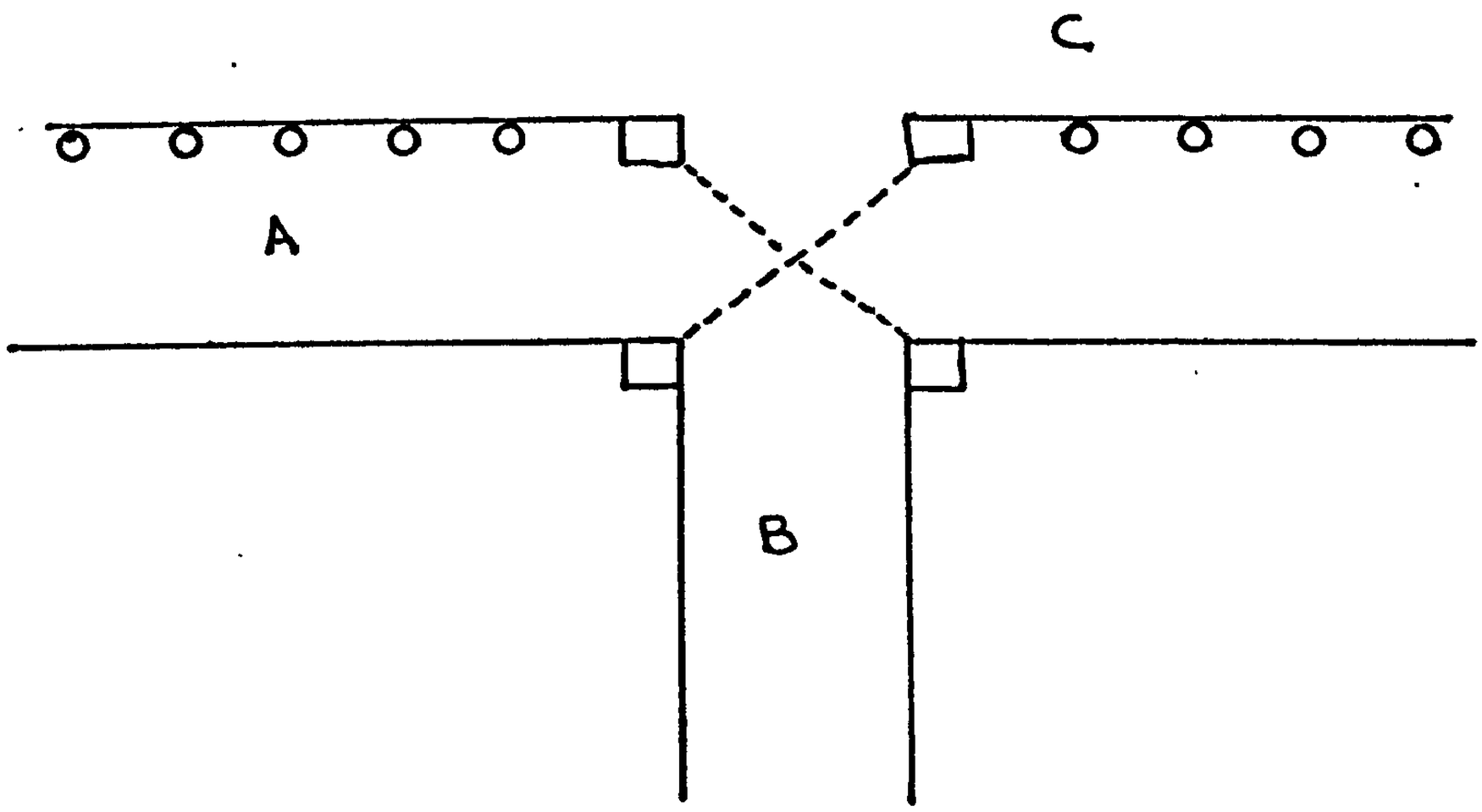


Figure 9 Perge - Sketch of Arrangement at an Intersection

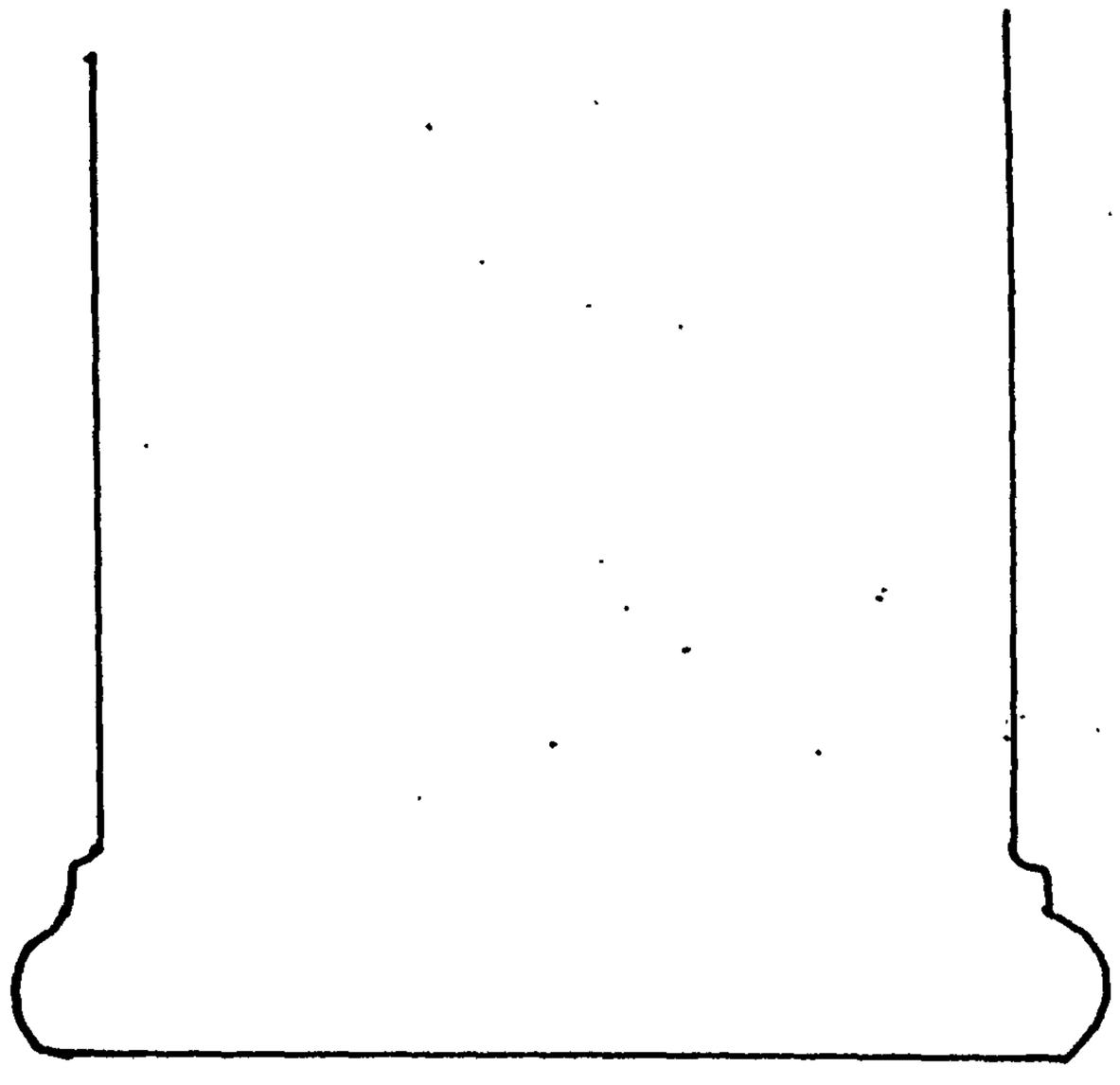


Figure 10 Diocaesareia - Base of Column:
Small order 1:6

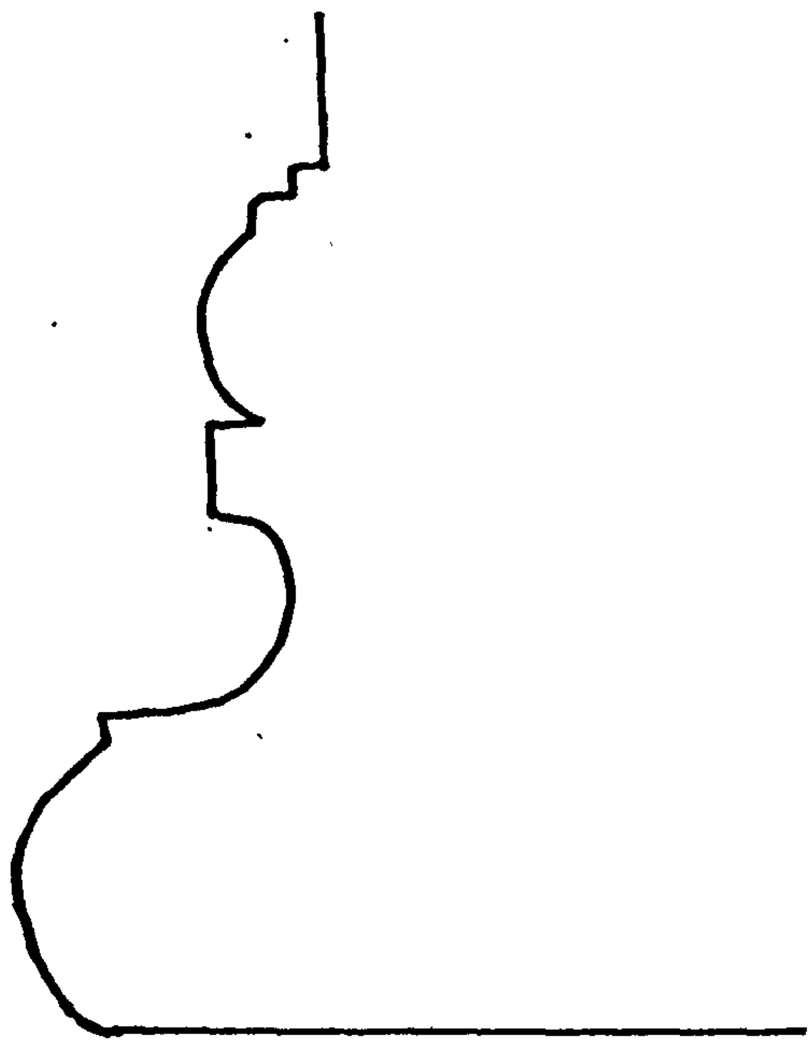


Figure 11 Diocaesareia - Attic-Ionic Base:
Large order 1:6

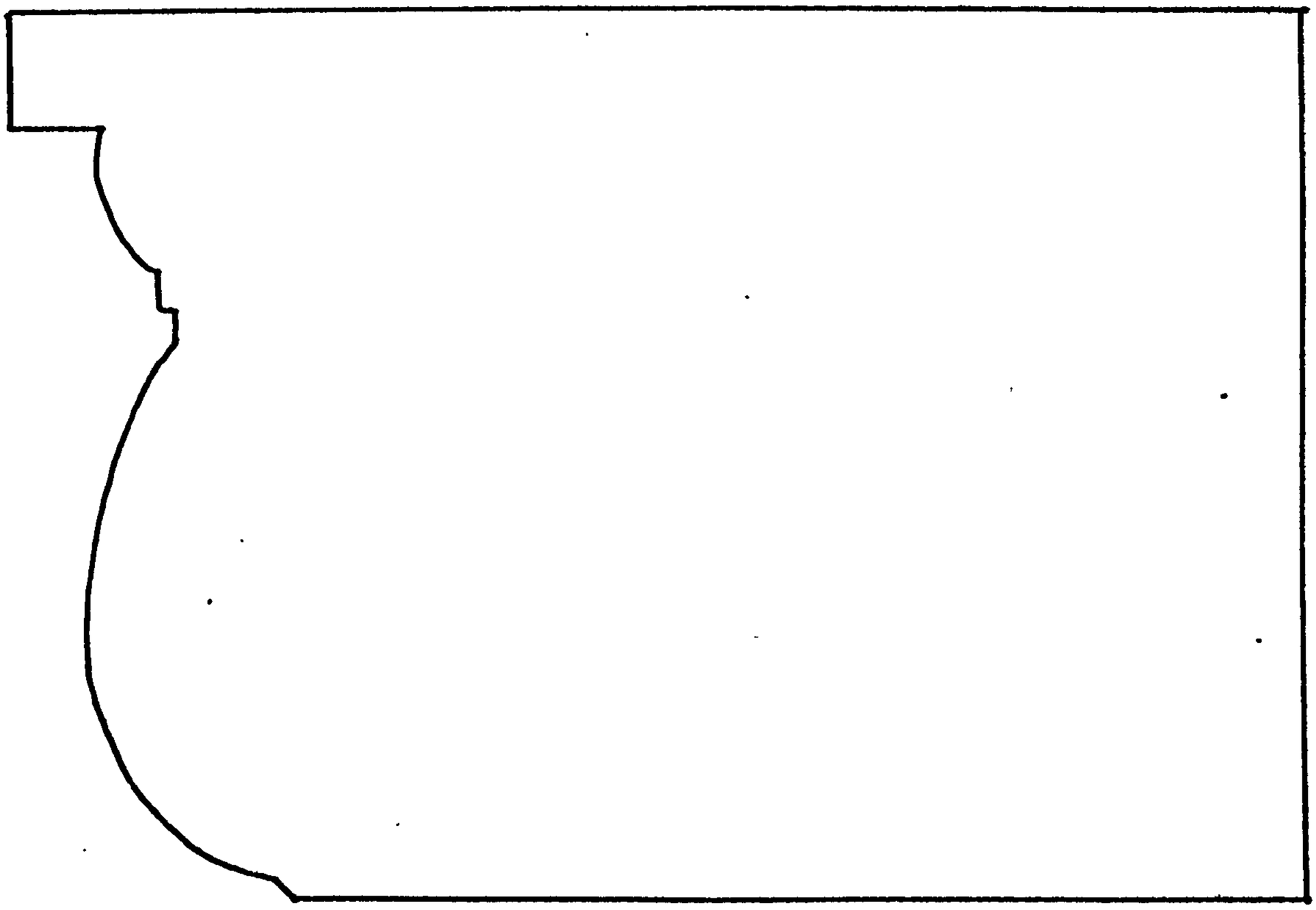


Figure 12 Diocaesareia - Frieze 1:6

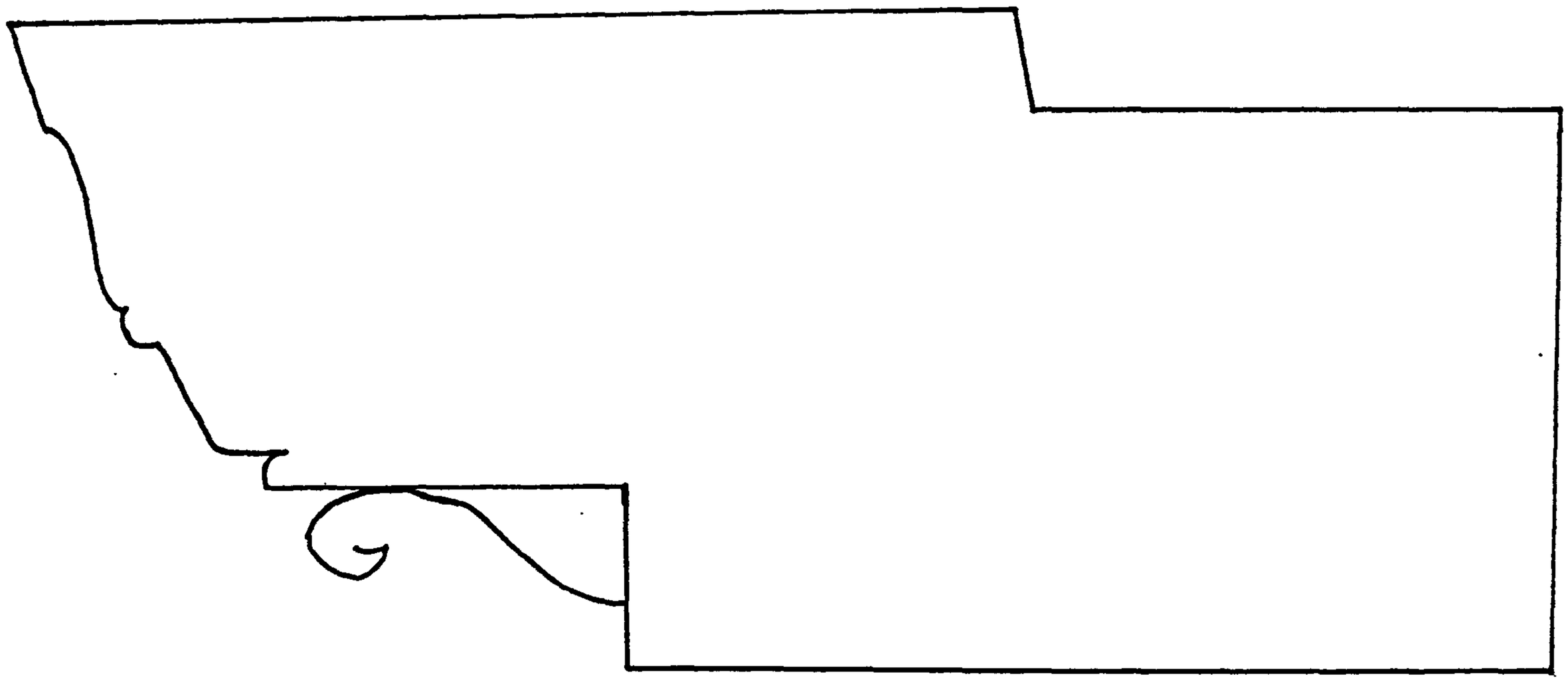


Figure 13 Diocaesareia - Cornice 1:8

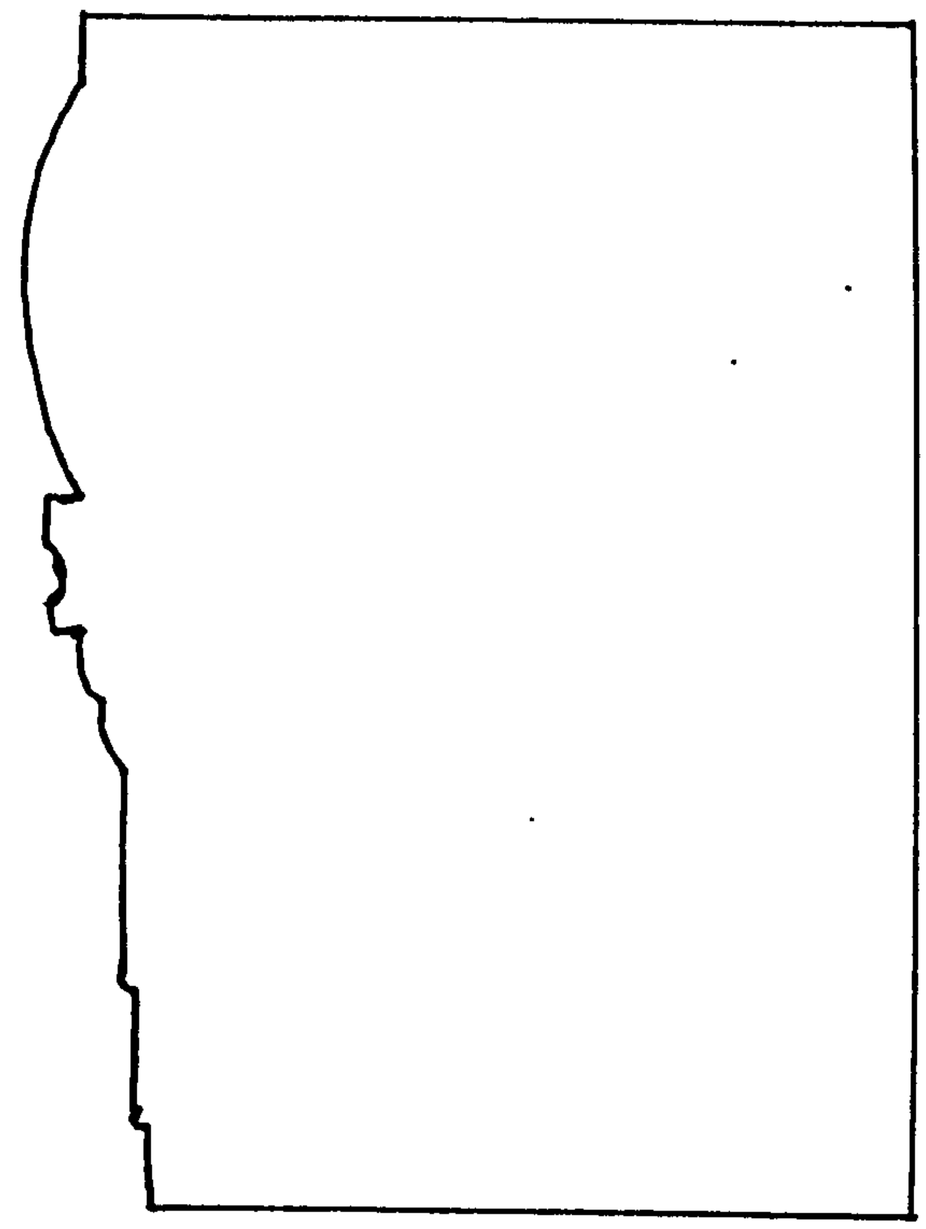


Figure 14 Diocaesareia - Entablature 1:6

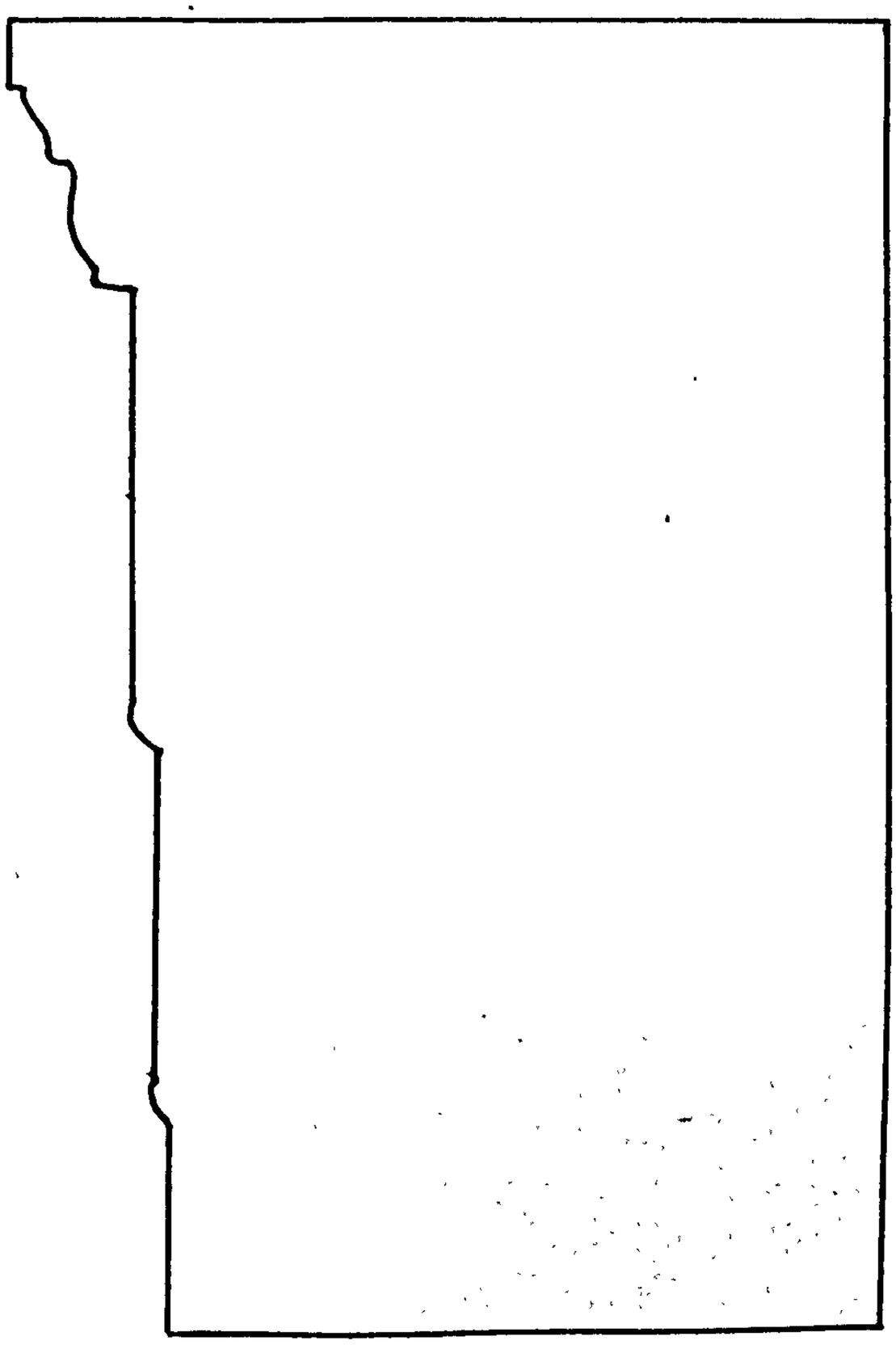
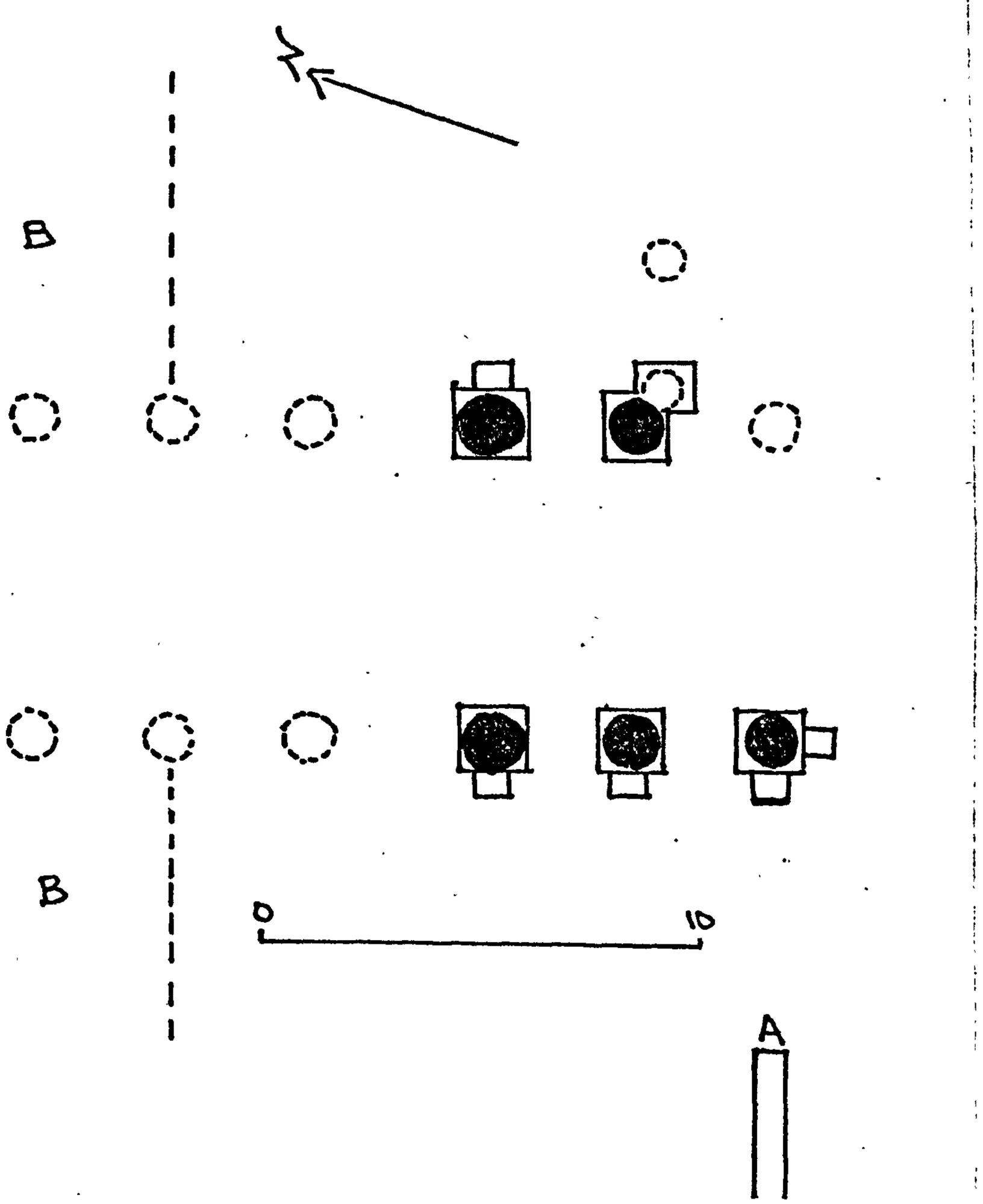


Figure 16 Diocaesareia - Architrave 1:6



A Line of Zeus-Temenos Wall
B Traces of stylobate

Figure 15 Diocaesareia - Sketch of Gate

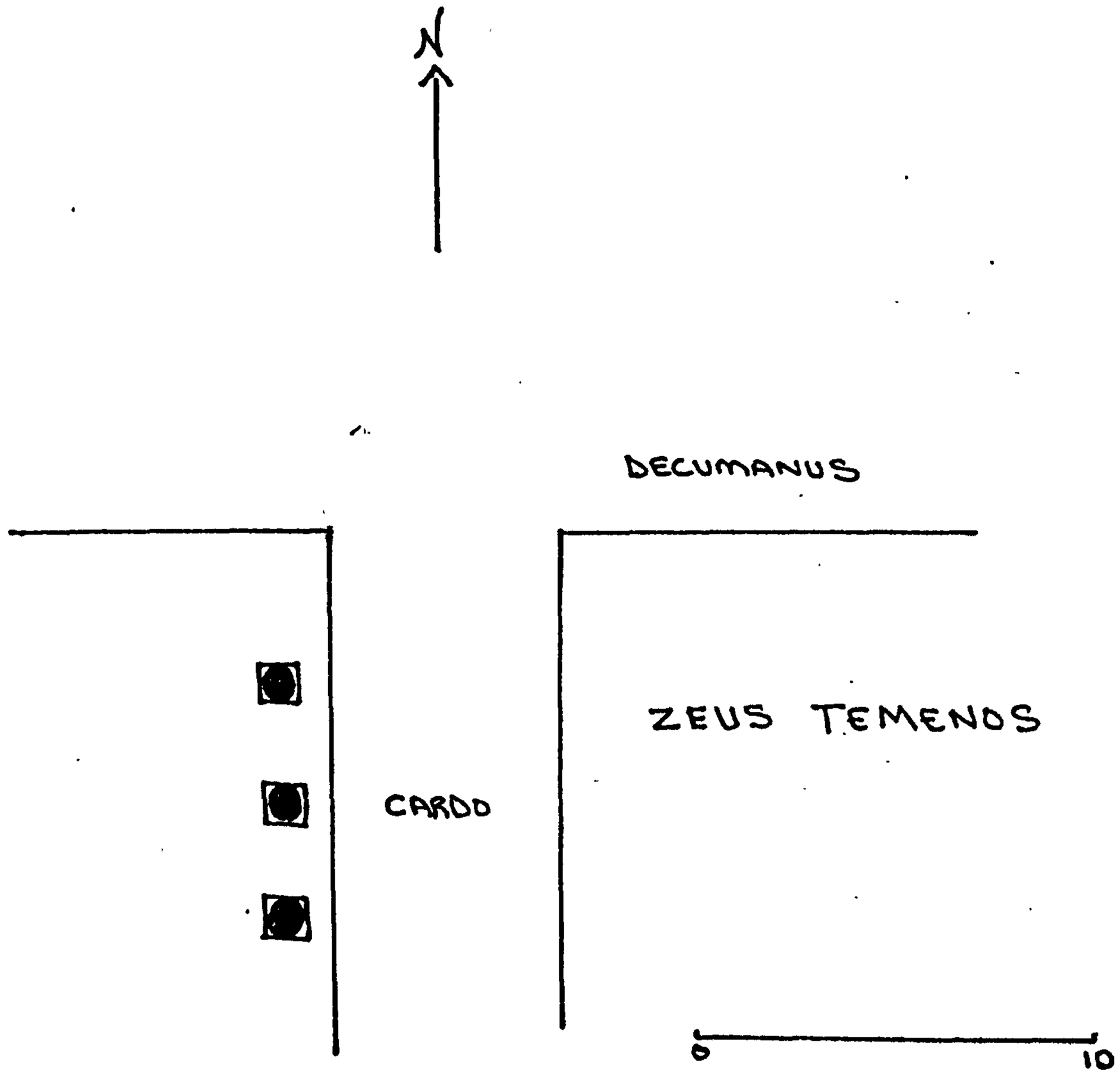


Figure 17 Diocaesareia - Sketch of the Cardo

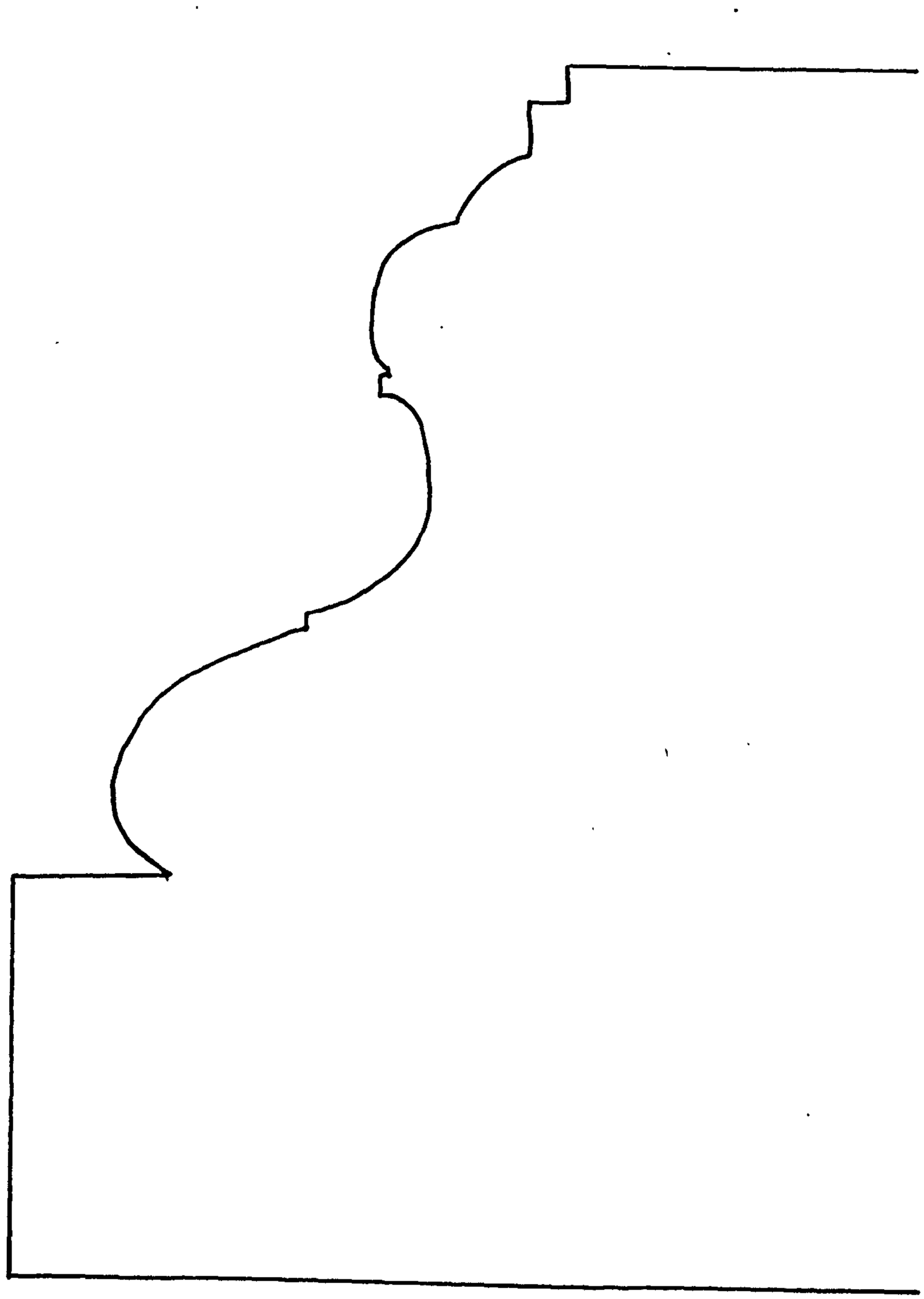


Figure 18 Hierapolis-Castabala - Base 1:2

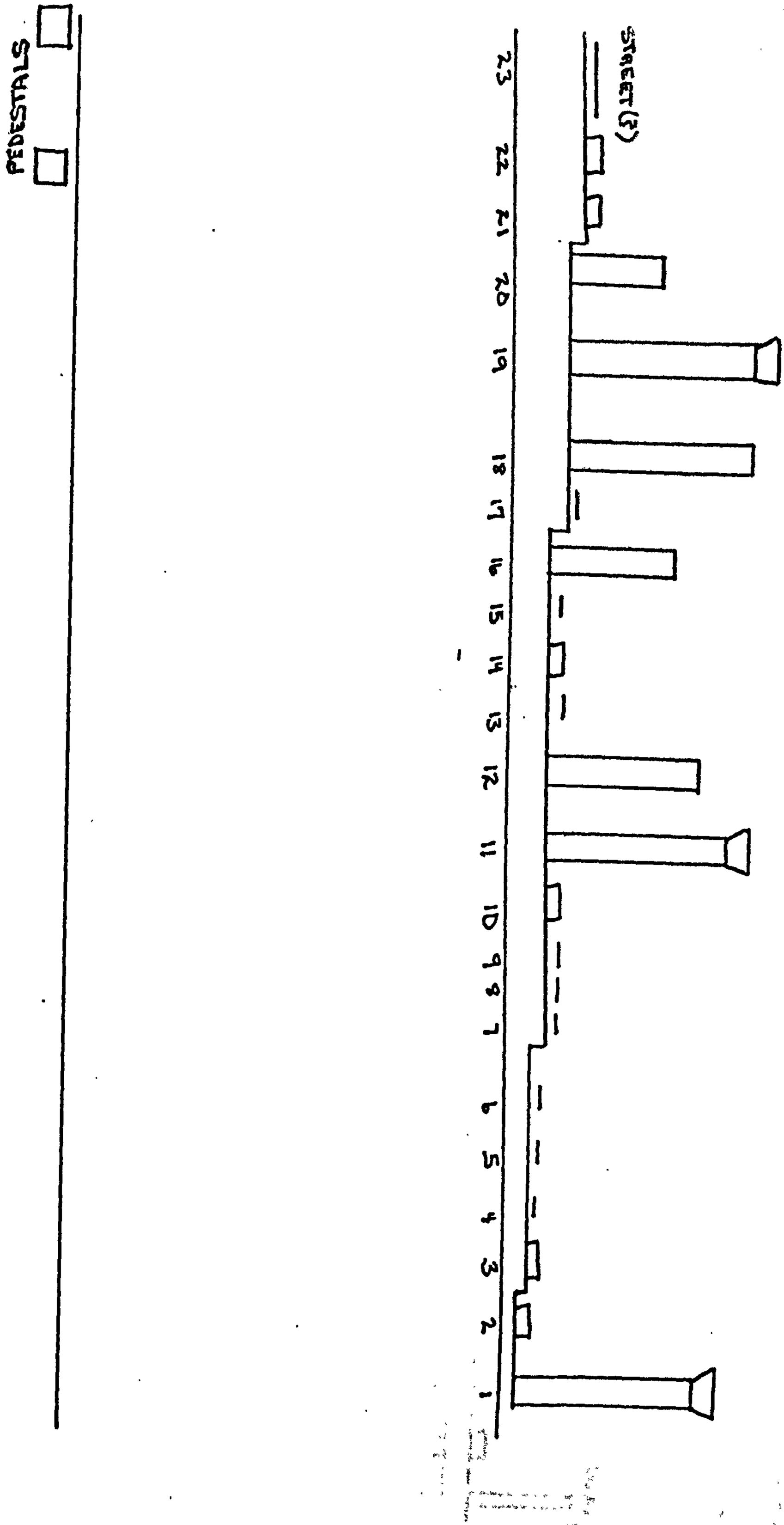


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Figure 19 Hierapolis-Castabala - Schematic Lay-out of the Colonnaded Street

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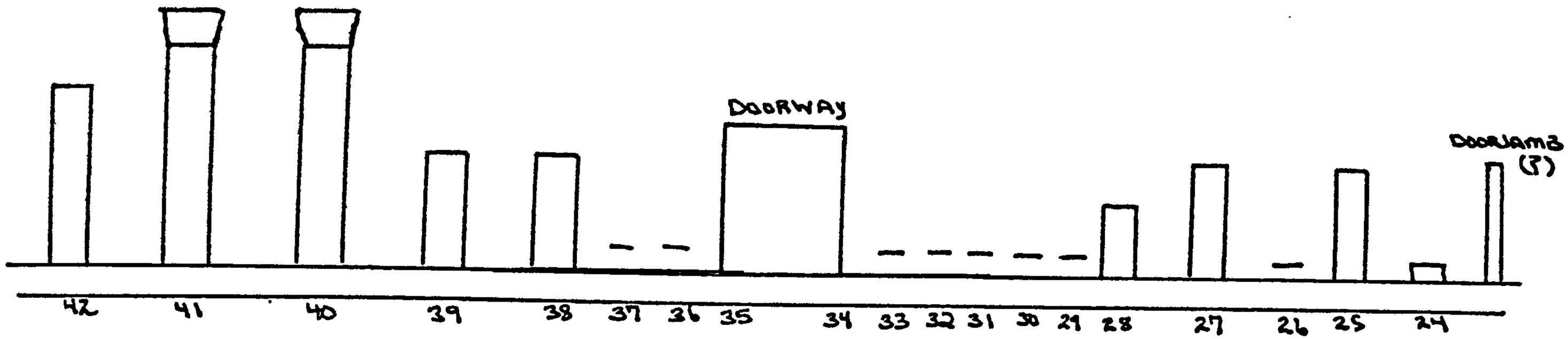

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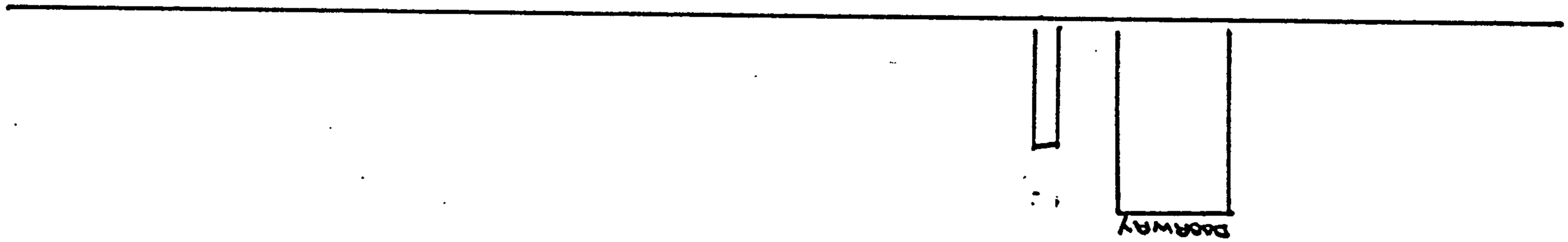

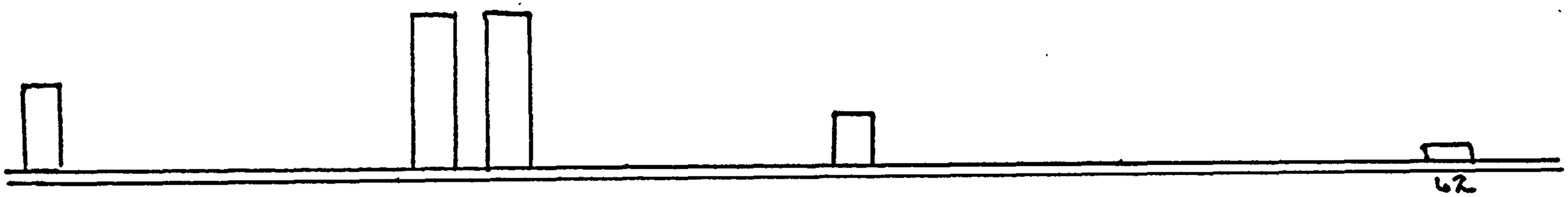
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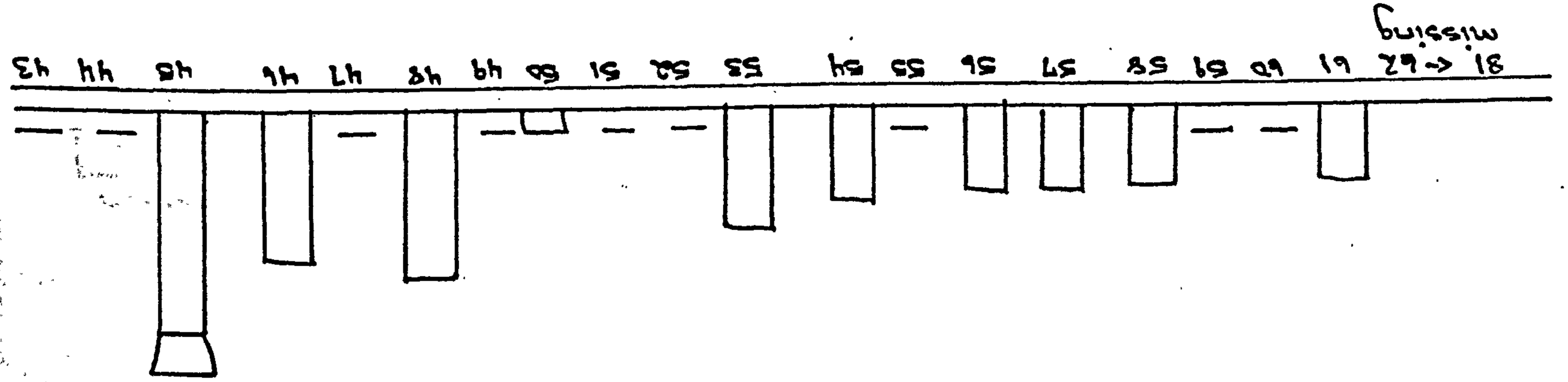
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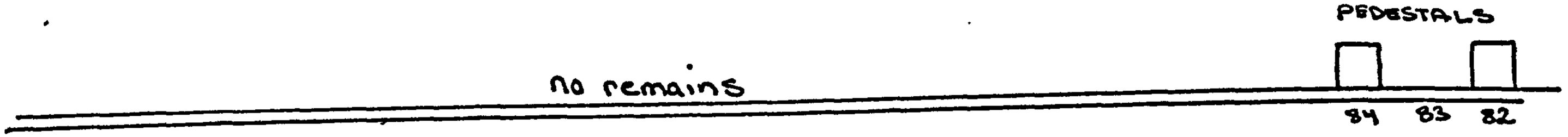

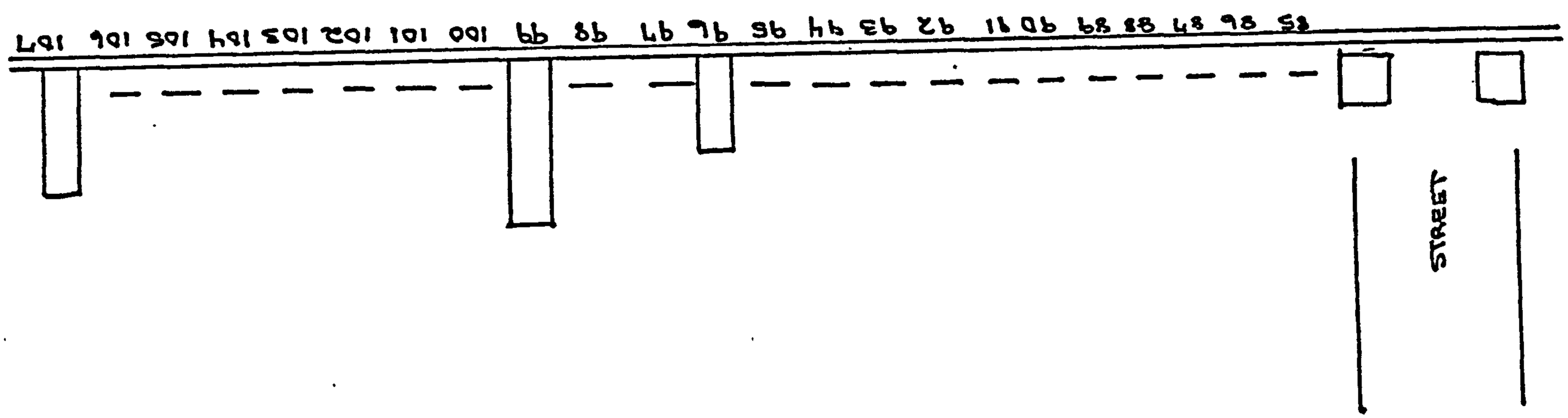

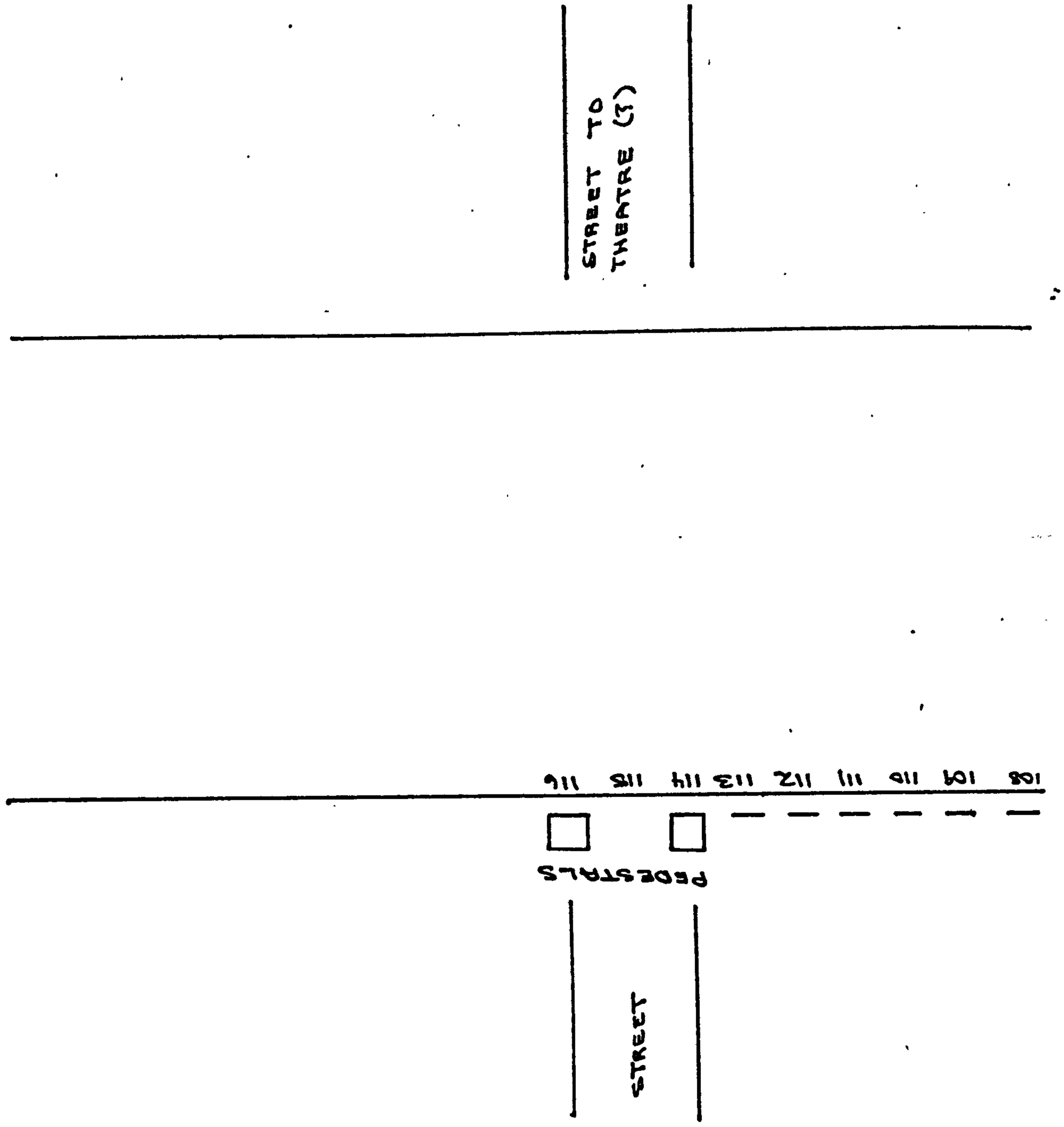
STREET TO THEATRE (↑)
PEDESTRALS
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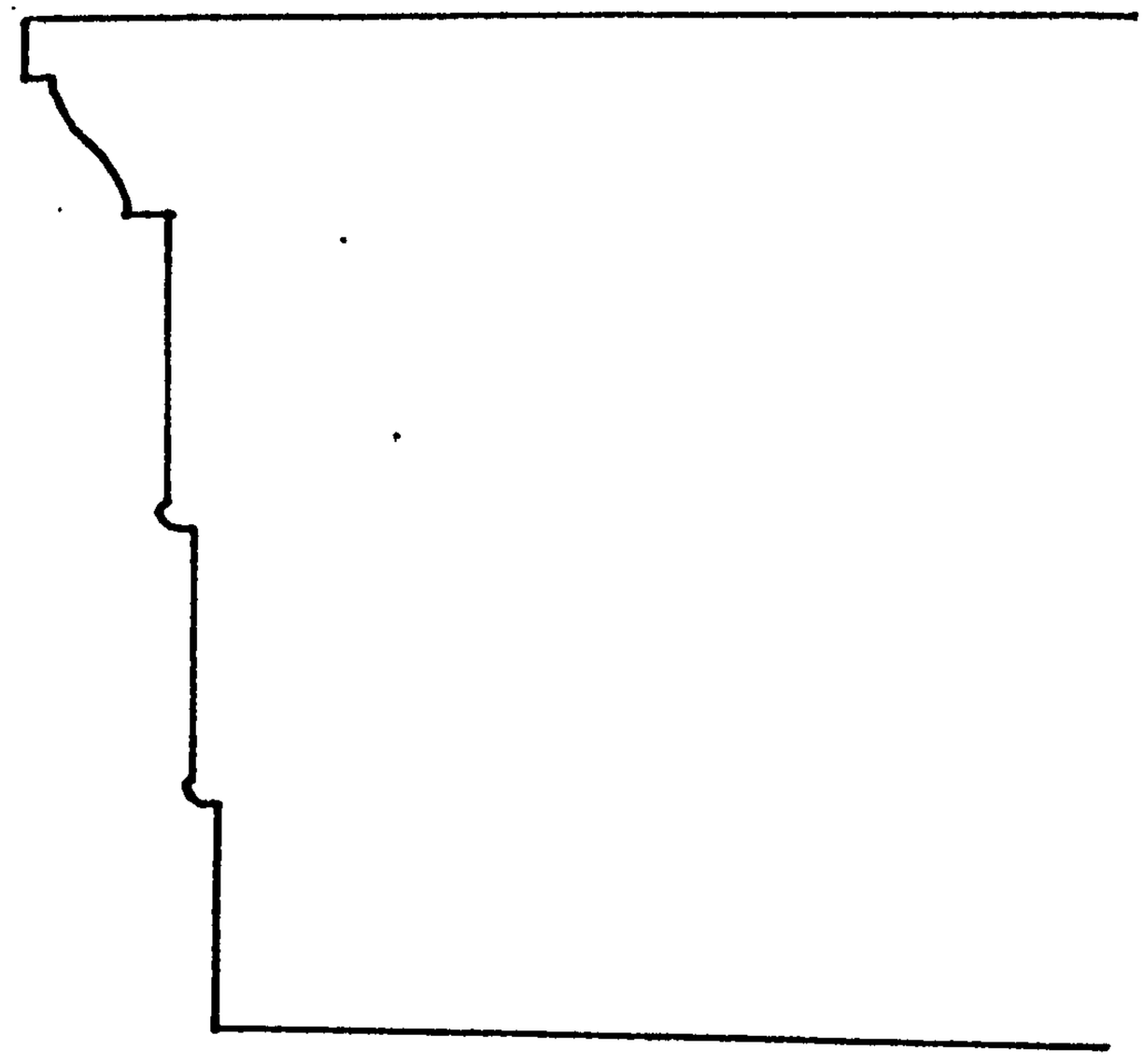


Figure 20 Hierapolis-Castabala - Architrave
1:6

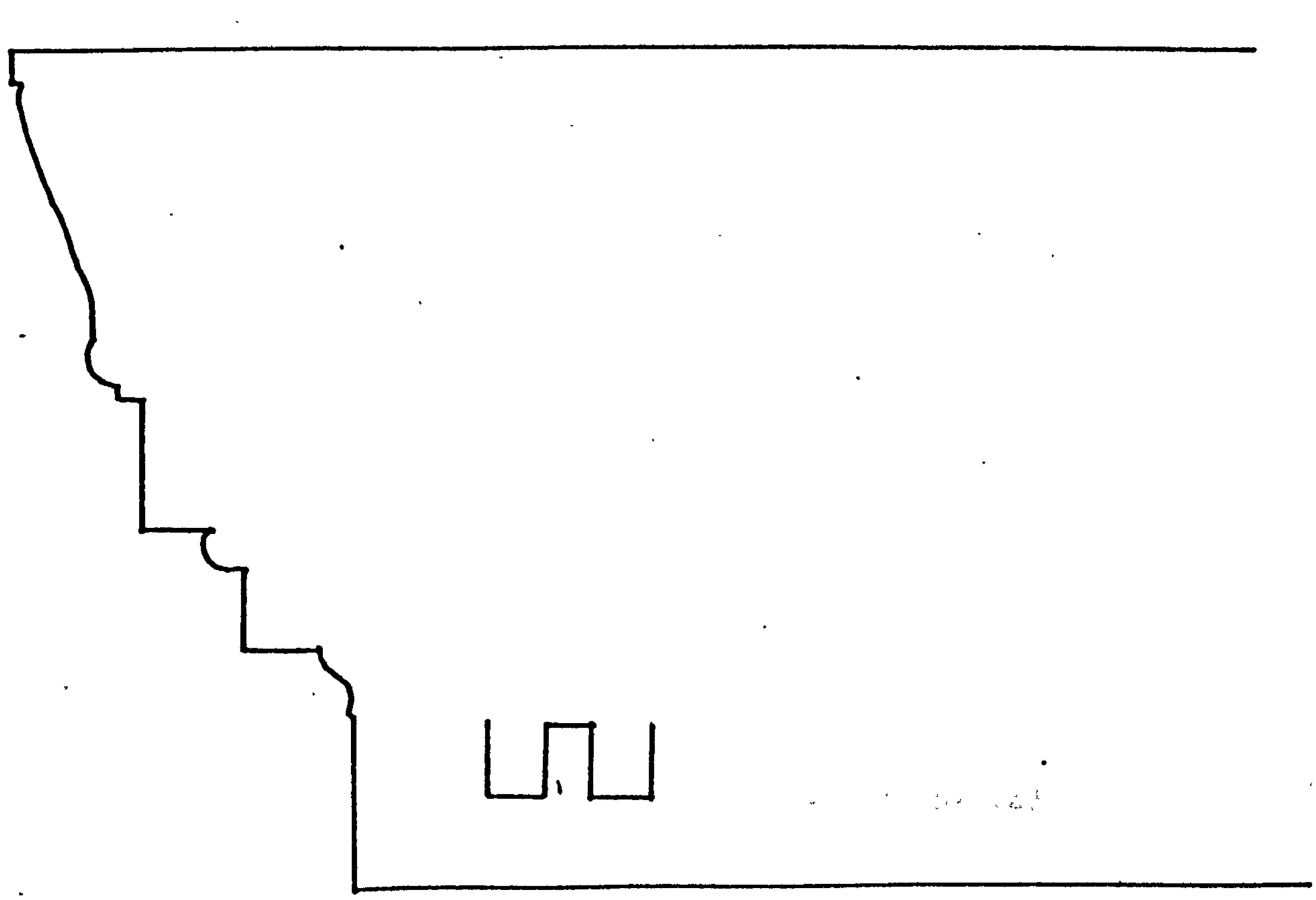


Figure 21 Hierapolis-Castabala - Cornice
1:6

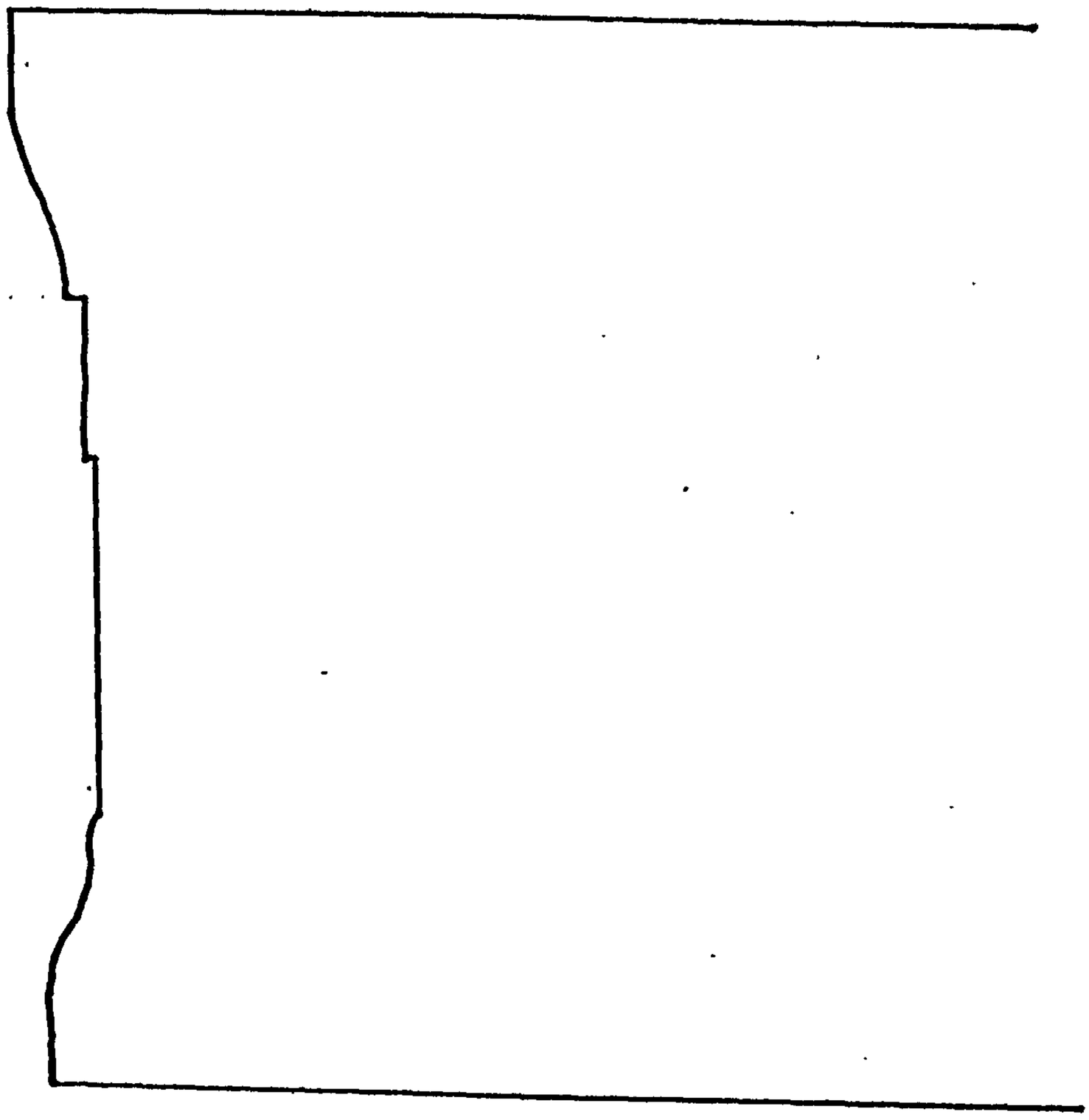


Figure 22 Hierapolis-Castabala - Pedestal
1:6

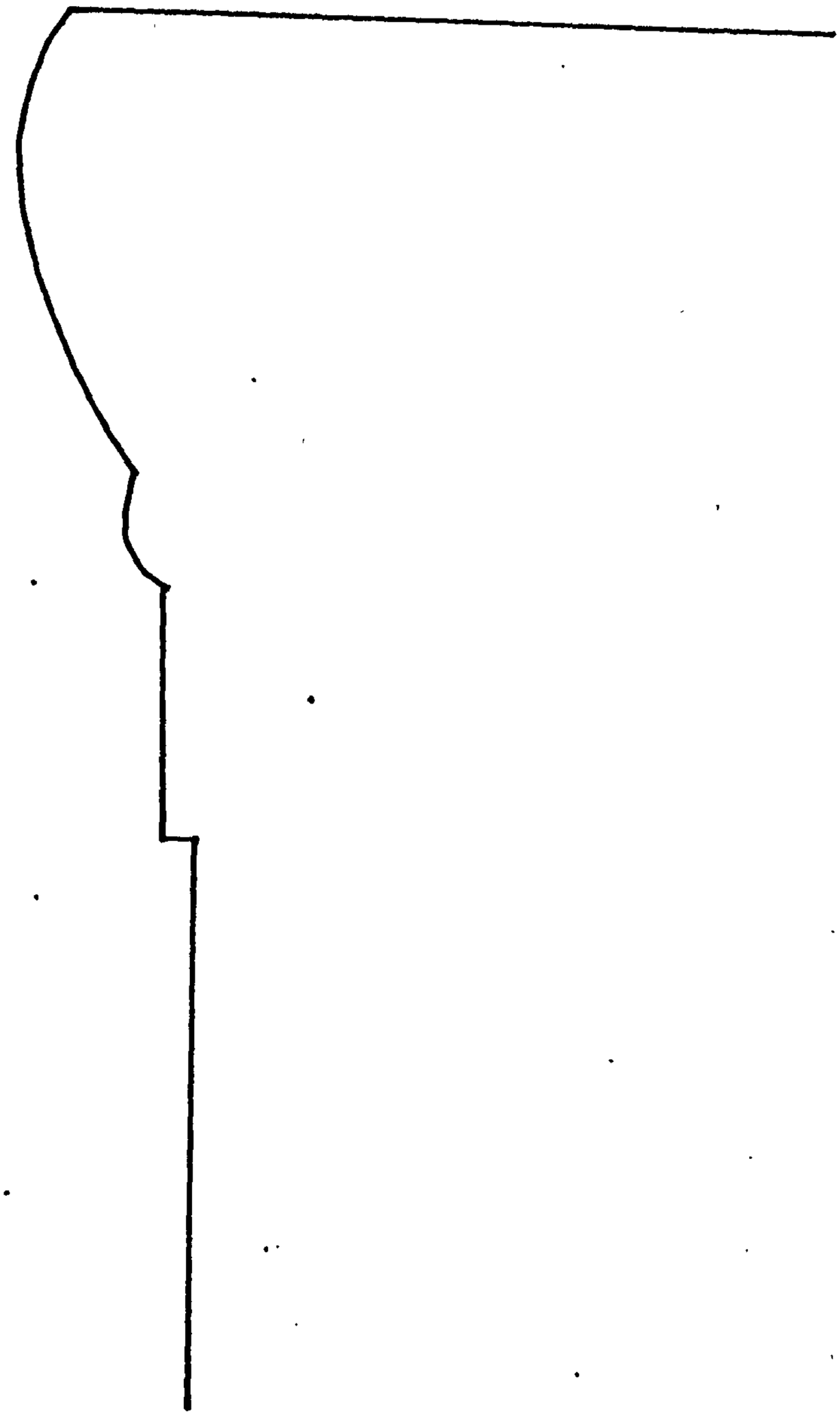


Figure 23 Hierapolis-Castabala - Pedestal 1:6

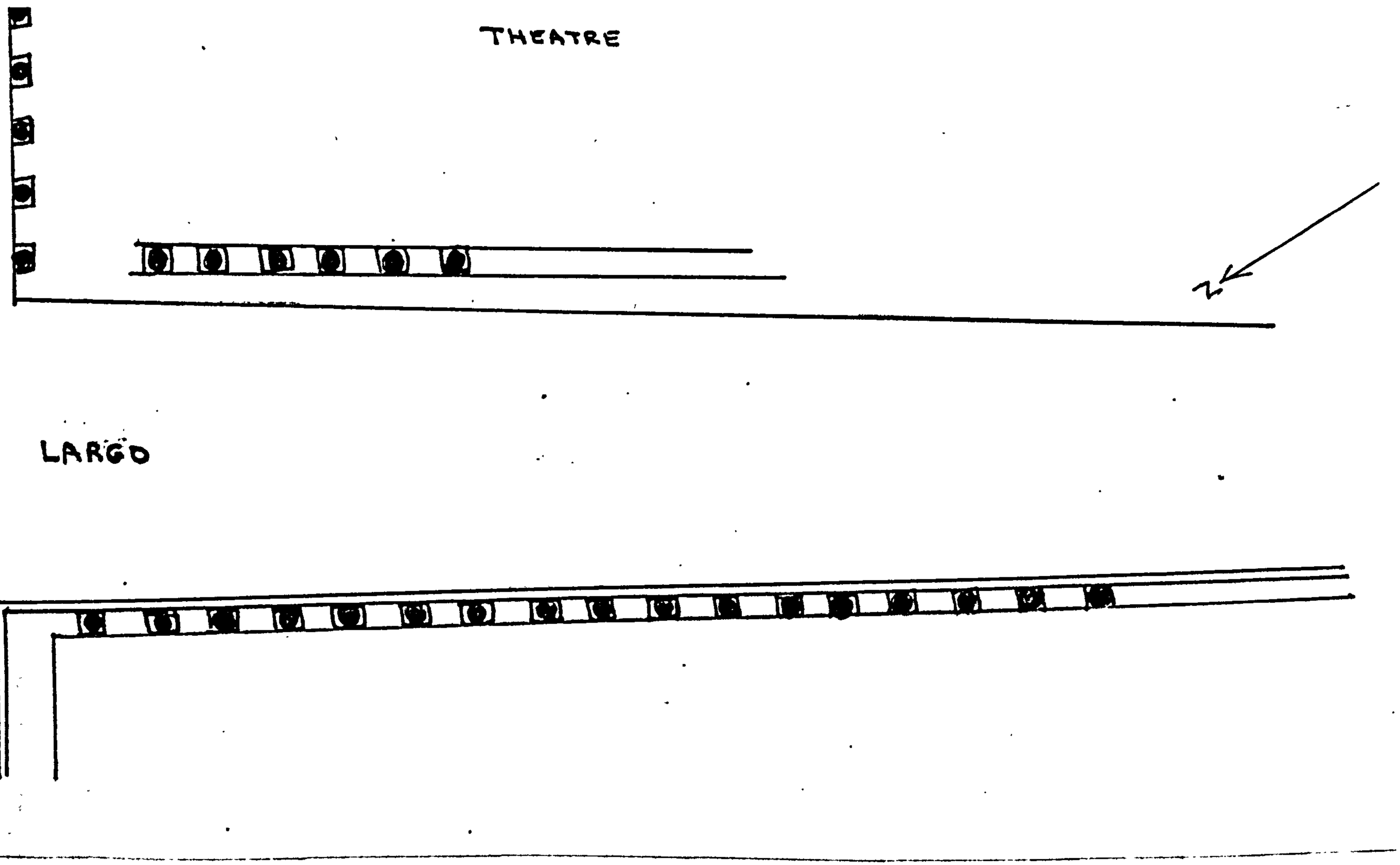


Figure 24 Side - Sketch of the Largo on Street B

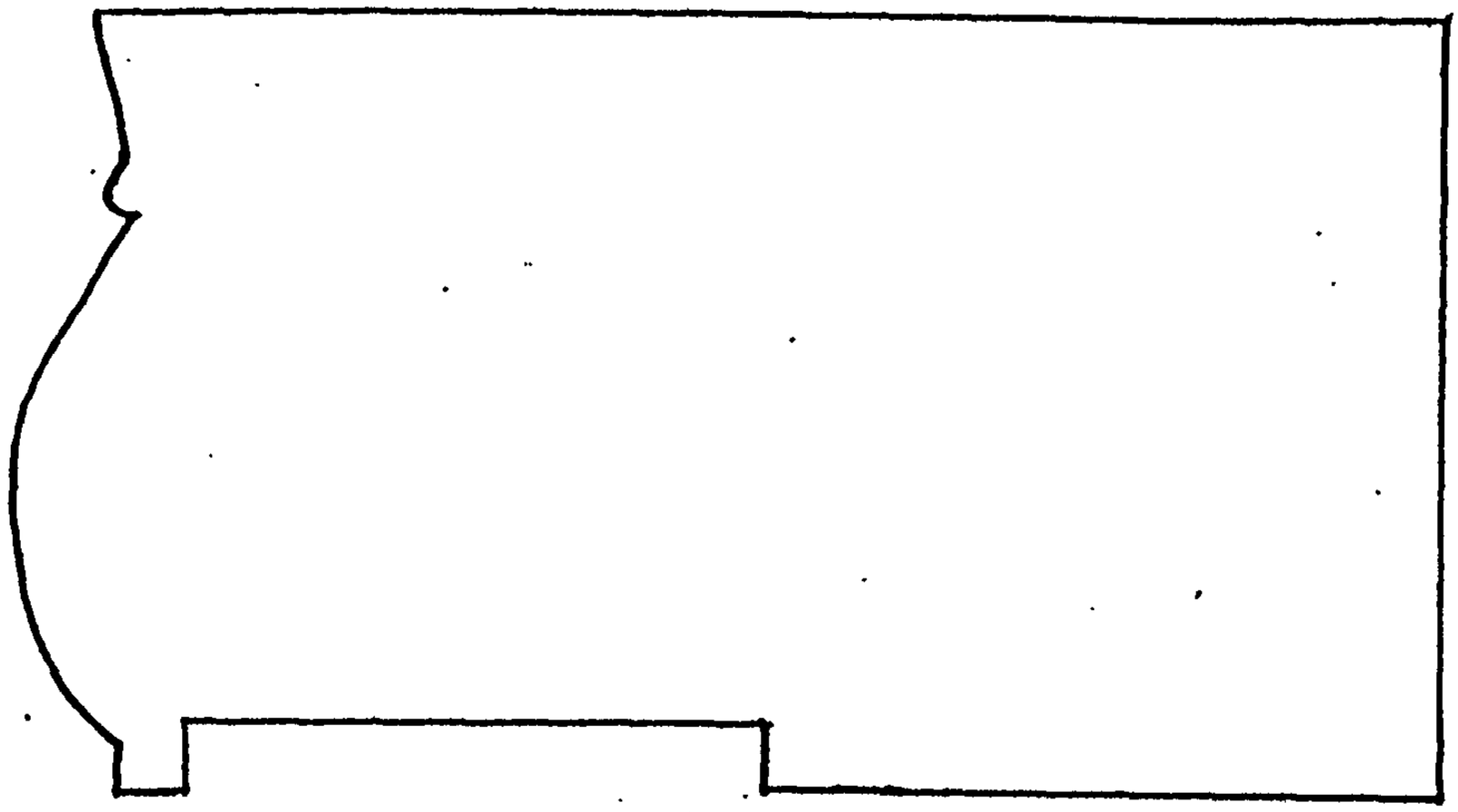


Figure 25 Side - Frieze block 1:8

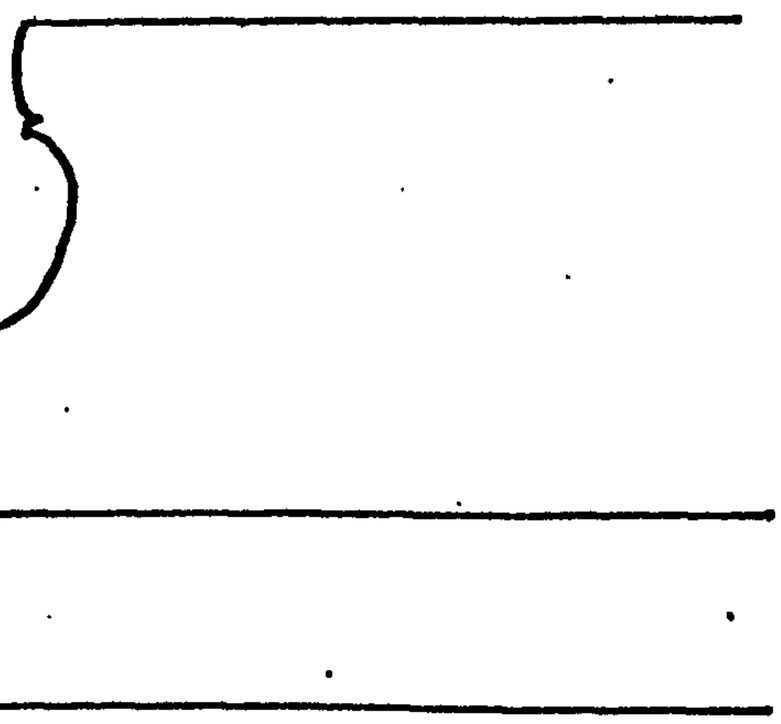


Figure 26 Side - Base 1:6

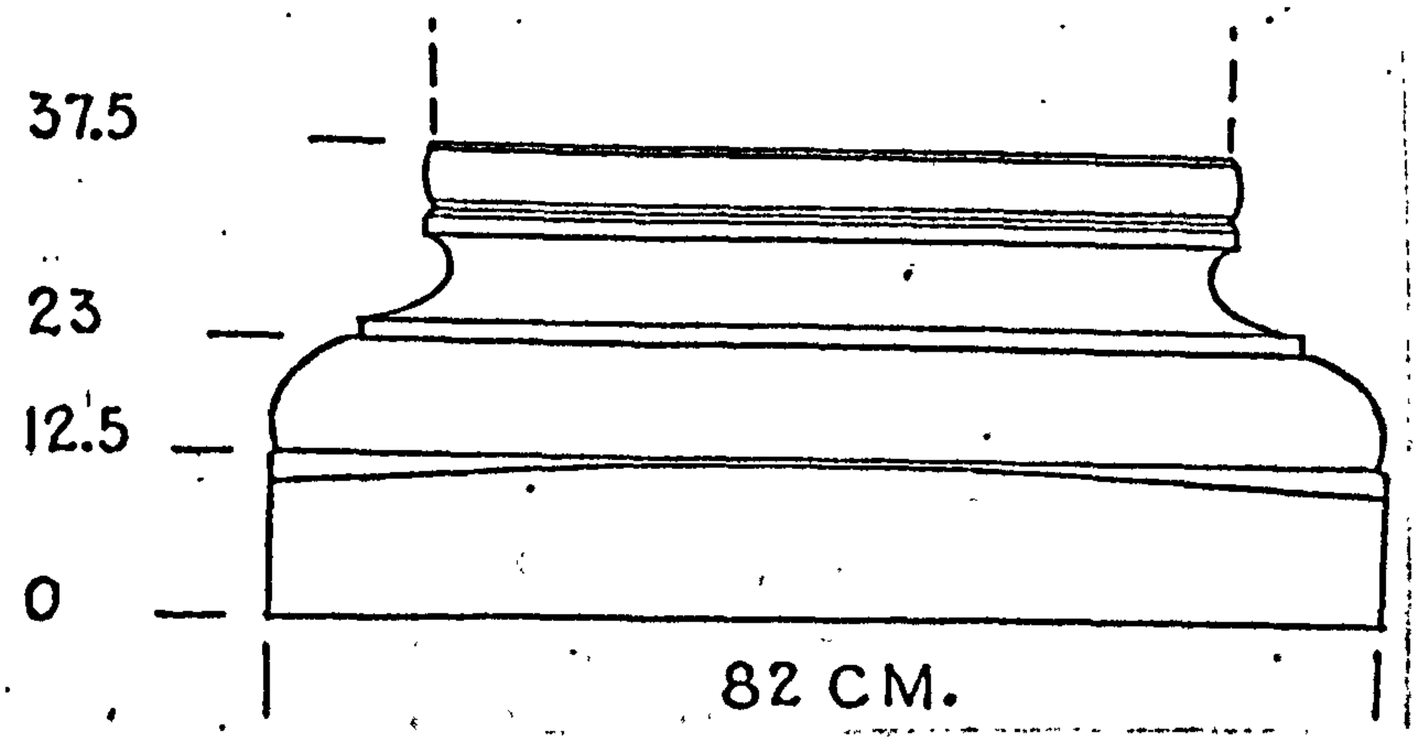


Figure 27 Seleuceia - Base

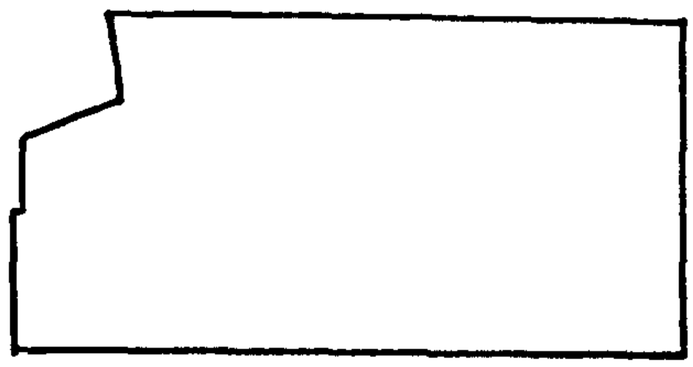


Figure 28 Side - Base 1:6

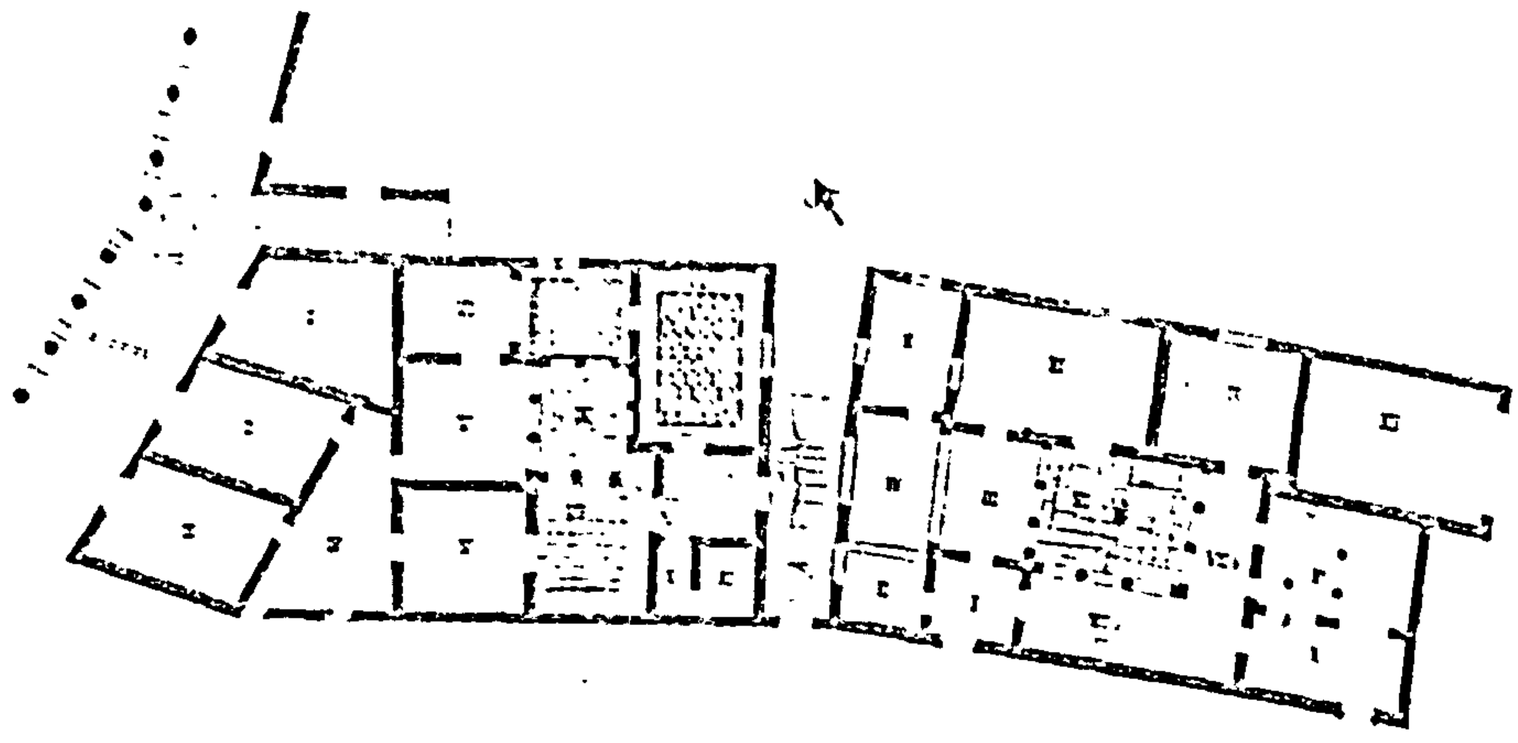


Figure 29 Side - Area of Houses

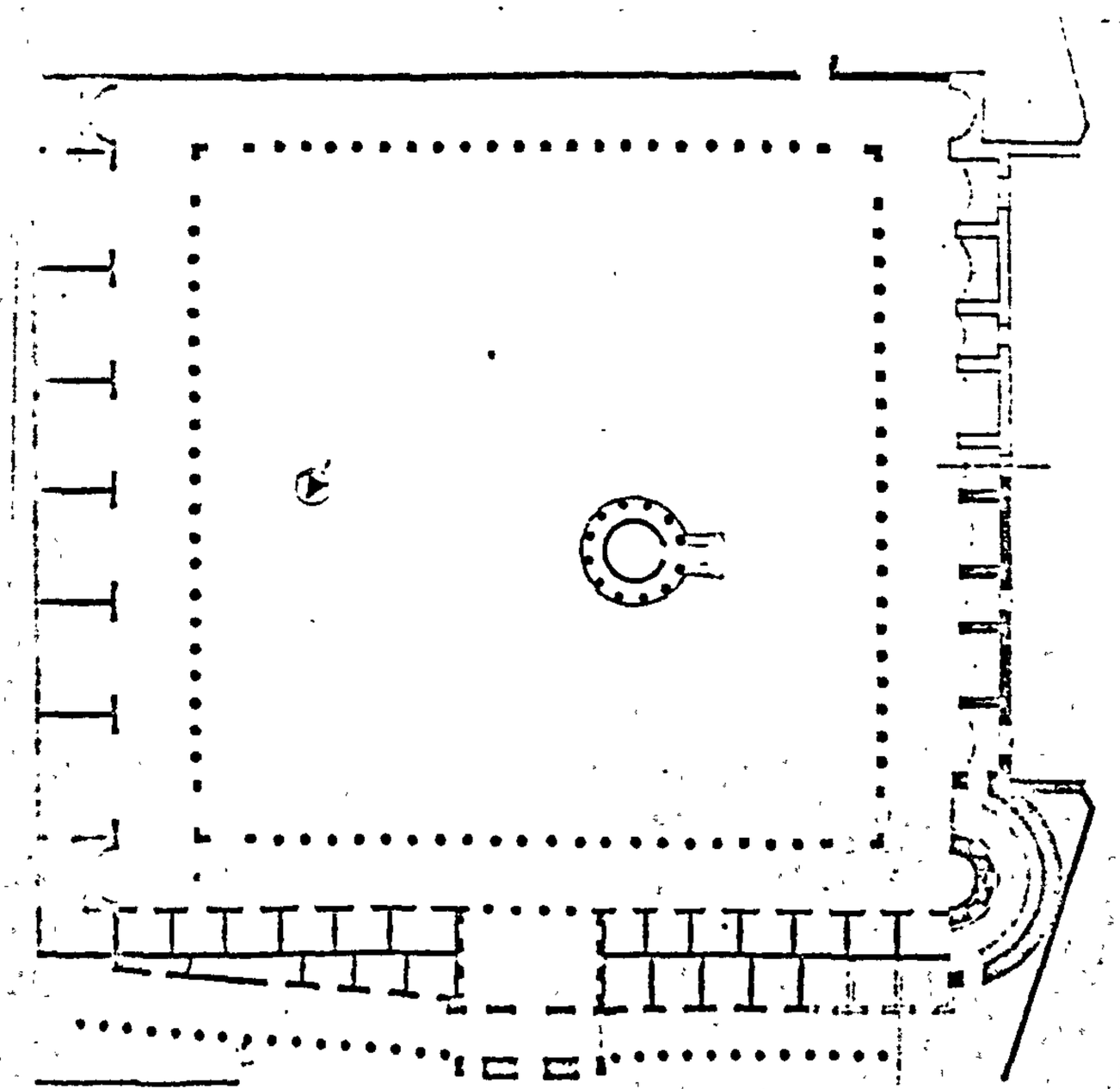


Figure 30 Side - Area of the Agora

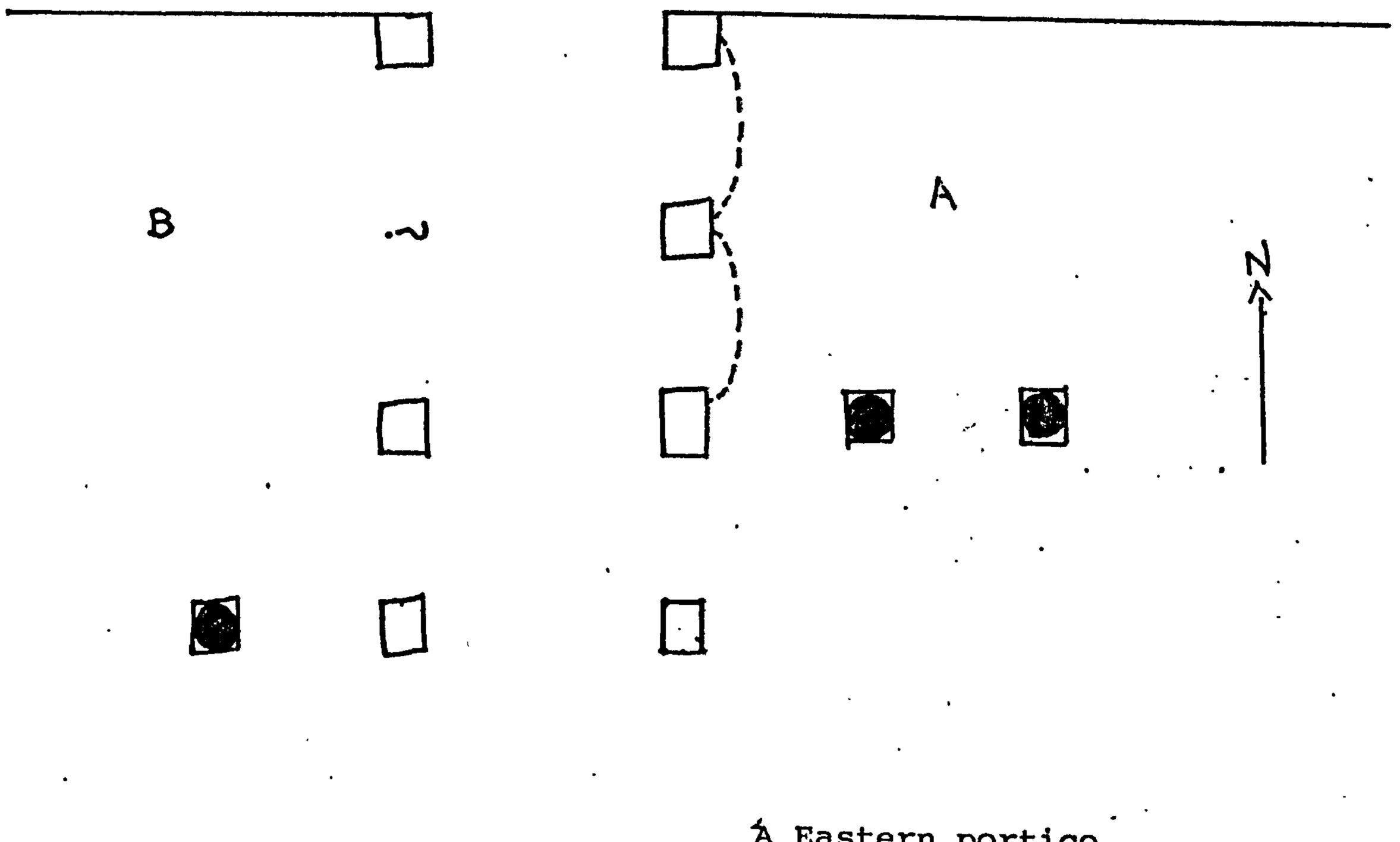


Figure 31 Ephesus - Sketch of Junction of Porticoes

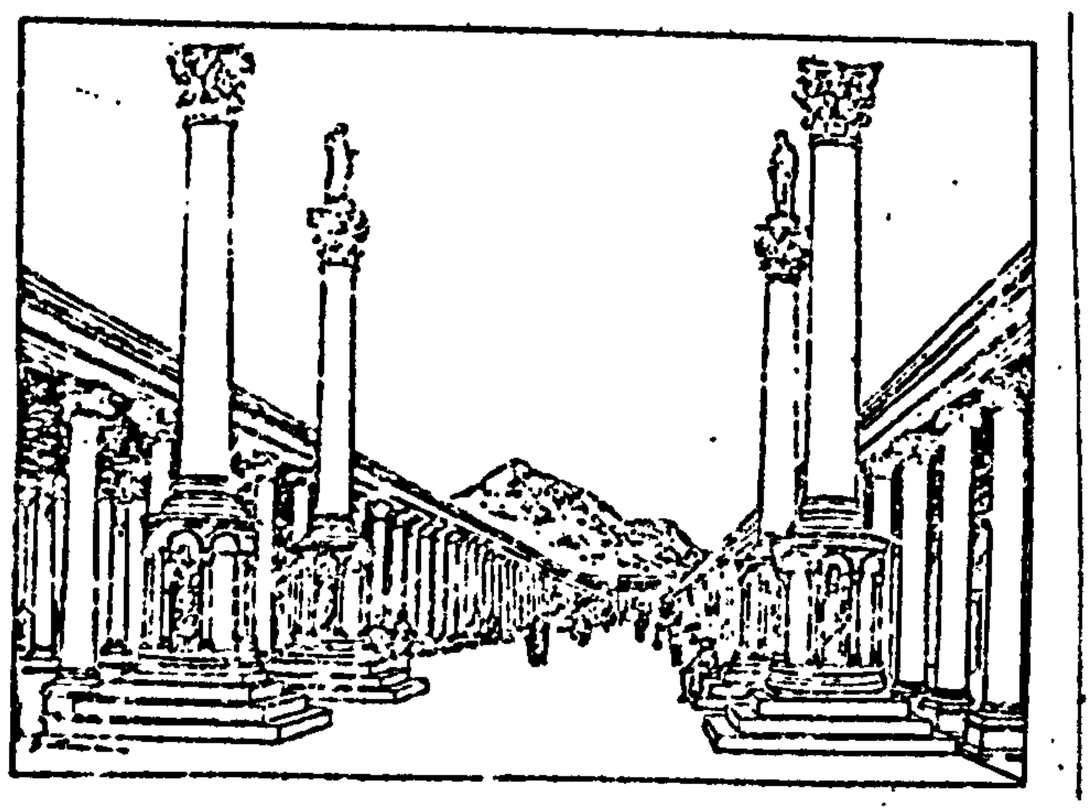


Figure 32 Ephesus - Honorary Columns

Figure 33 Ephesus - Curetes Street: Portico

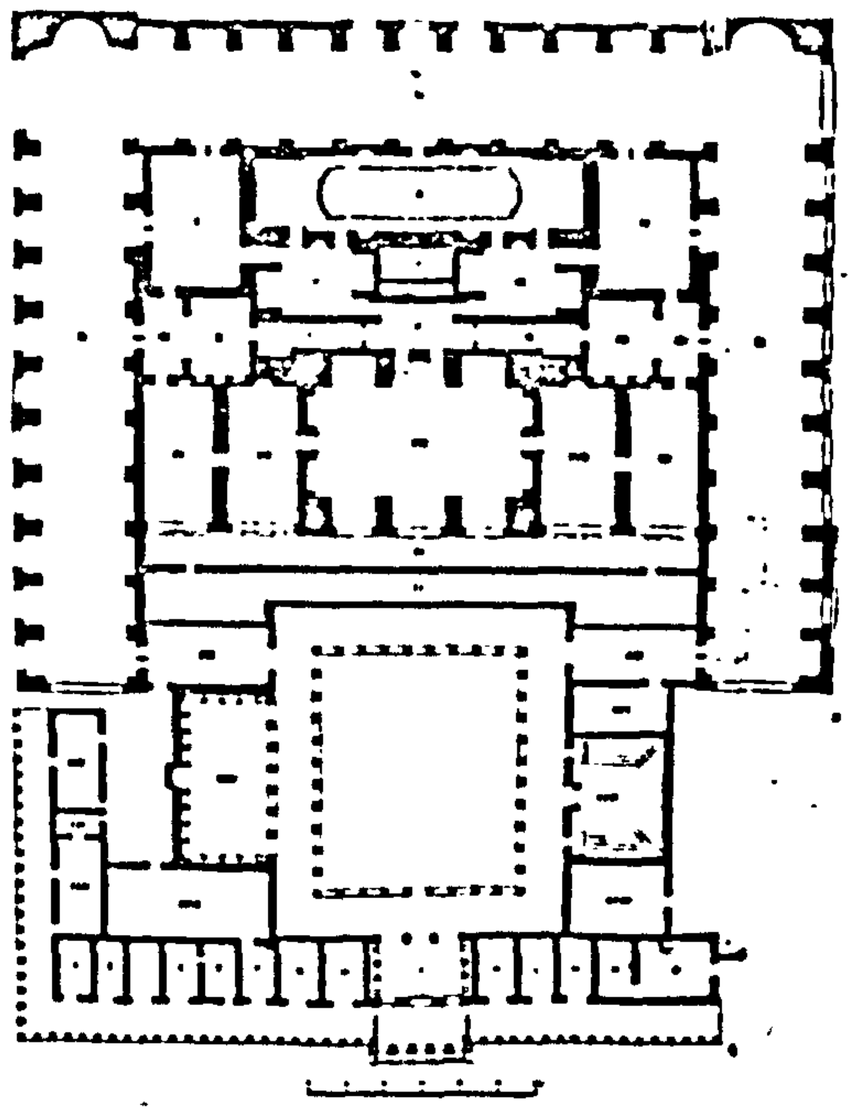


Figure 34 ' Ephesus - Portico of East Gymnasium

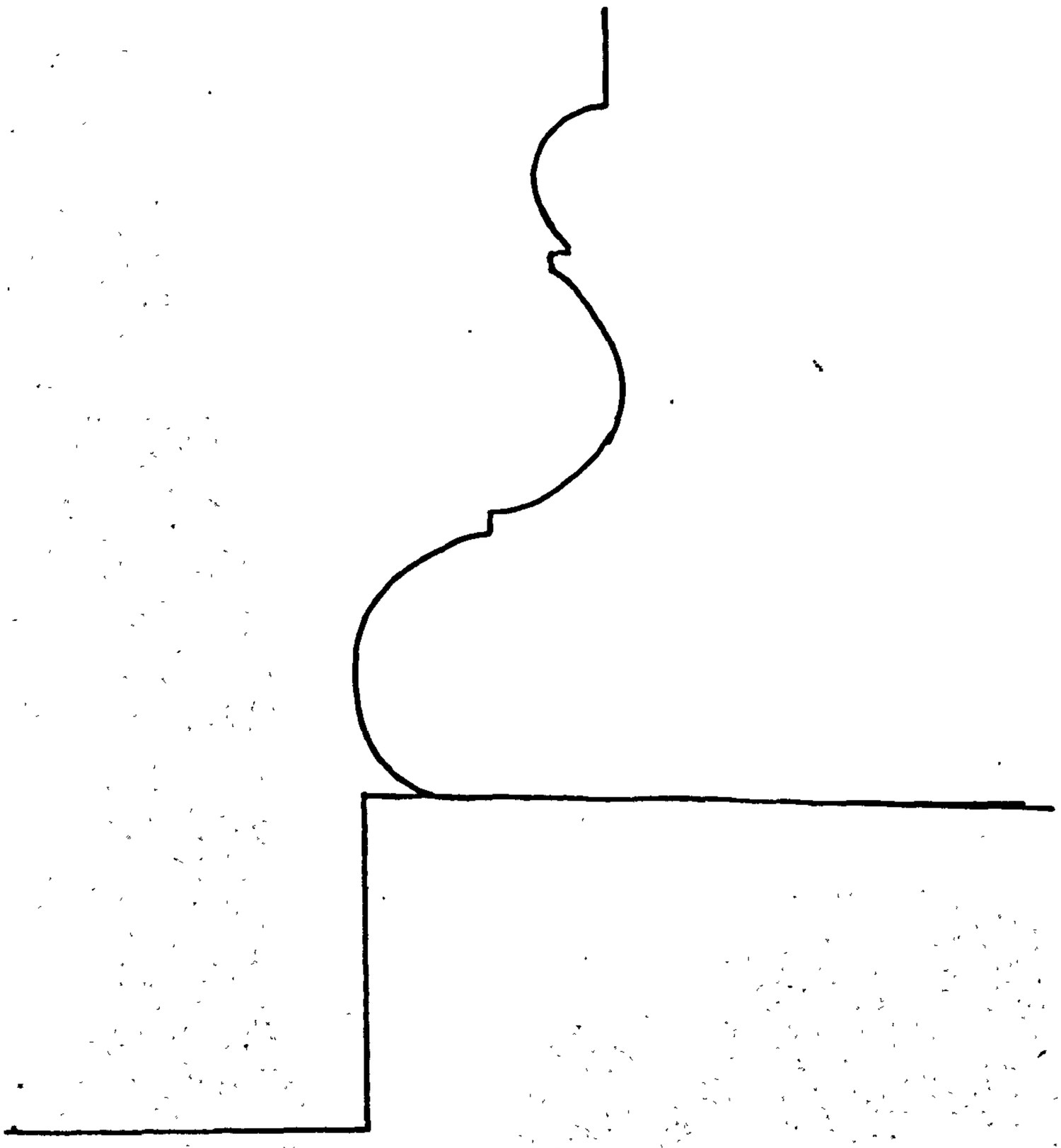


Figure 35 Soli-Pompeiopolis - Base 1:4

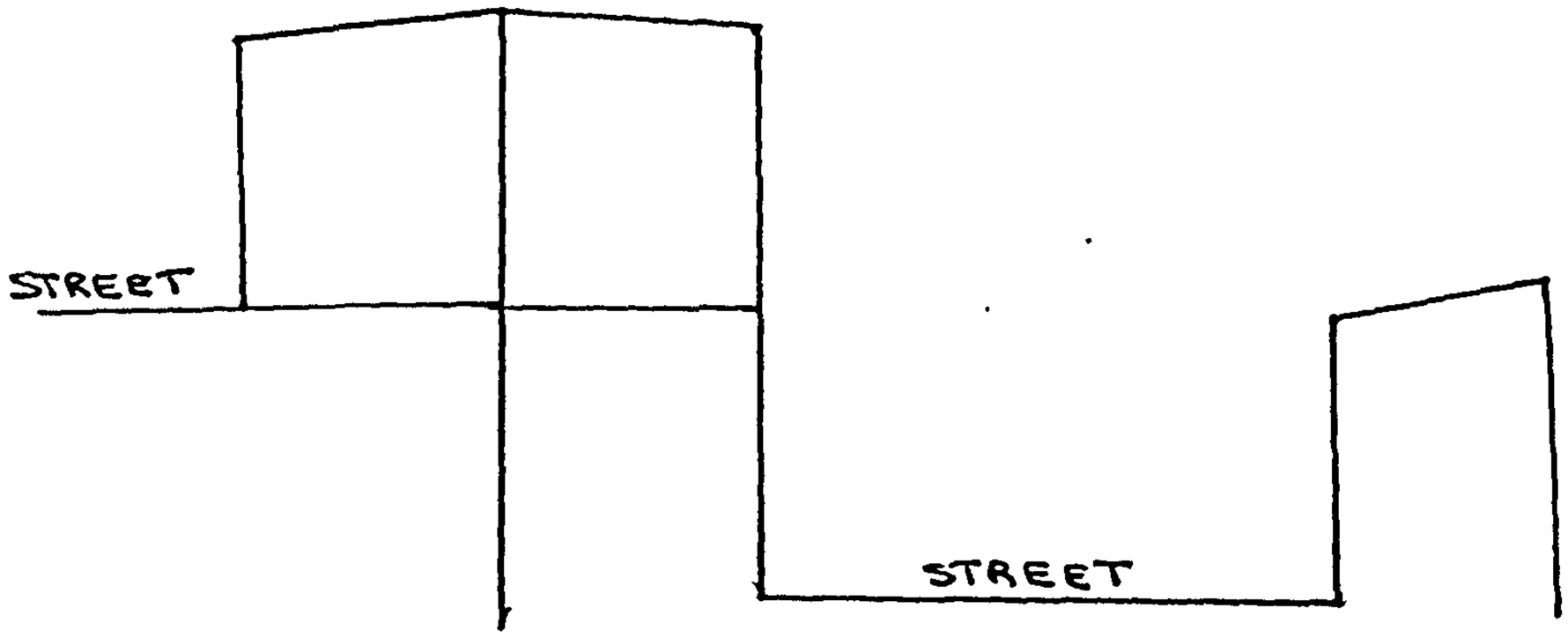


Figure 36 Kremna - Sketch of Possible Street Levels

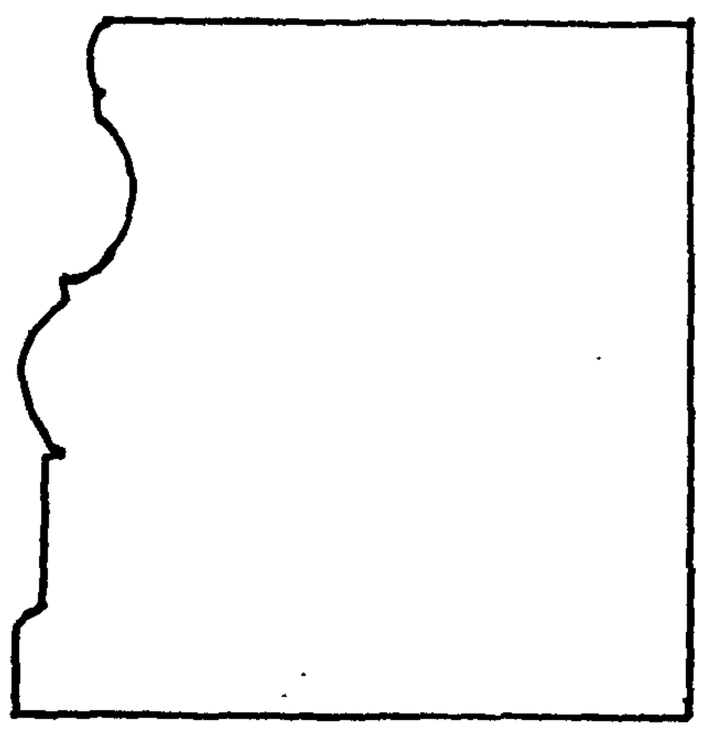


Figure 37 Kremna - Base 1:6

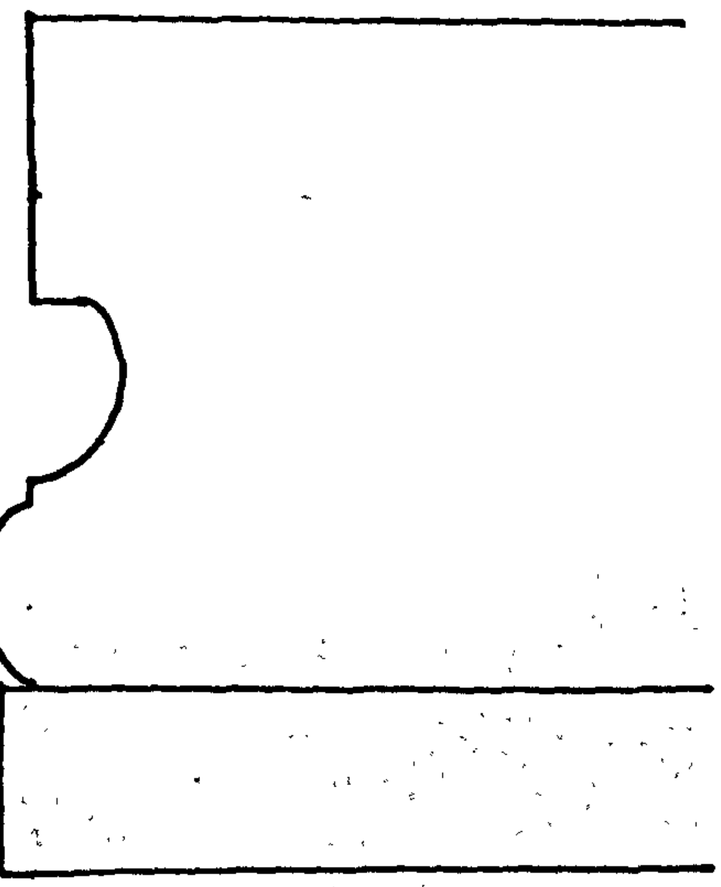


Figure 38 Olba - Base 1:6

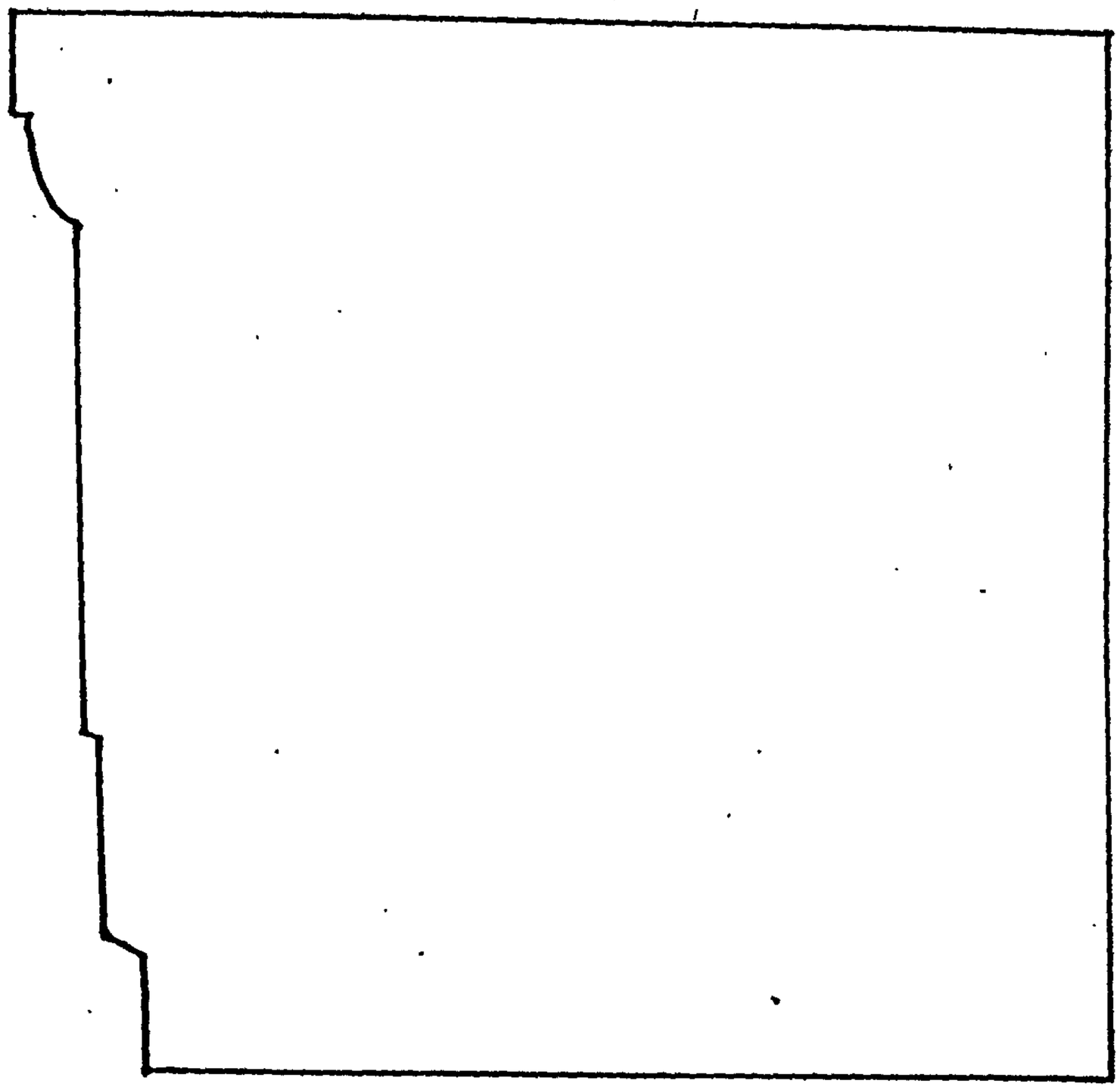
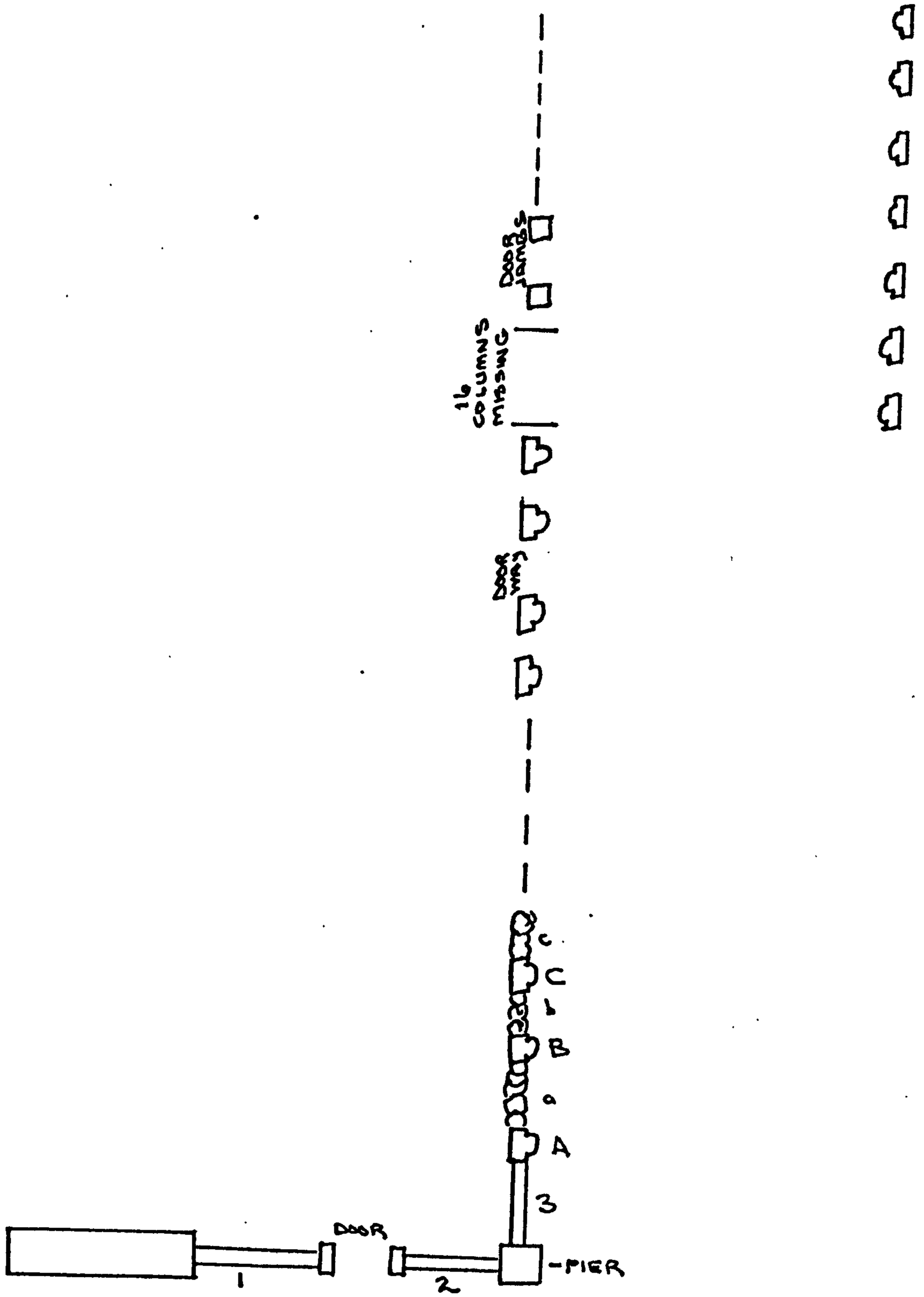


Figure 39 Olba - Architrave 1:6

Figure 40 Pergamon - Junction of Via Tecta and Colonnaded Street

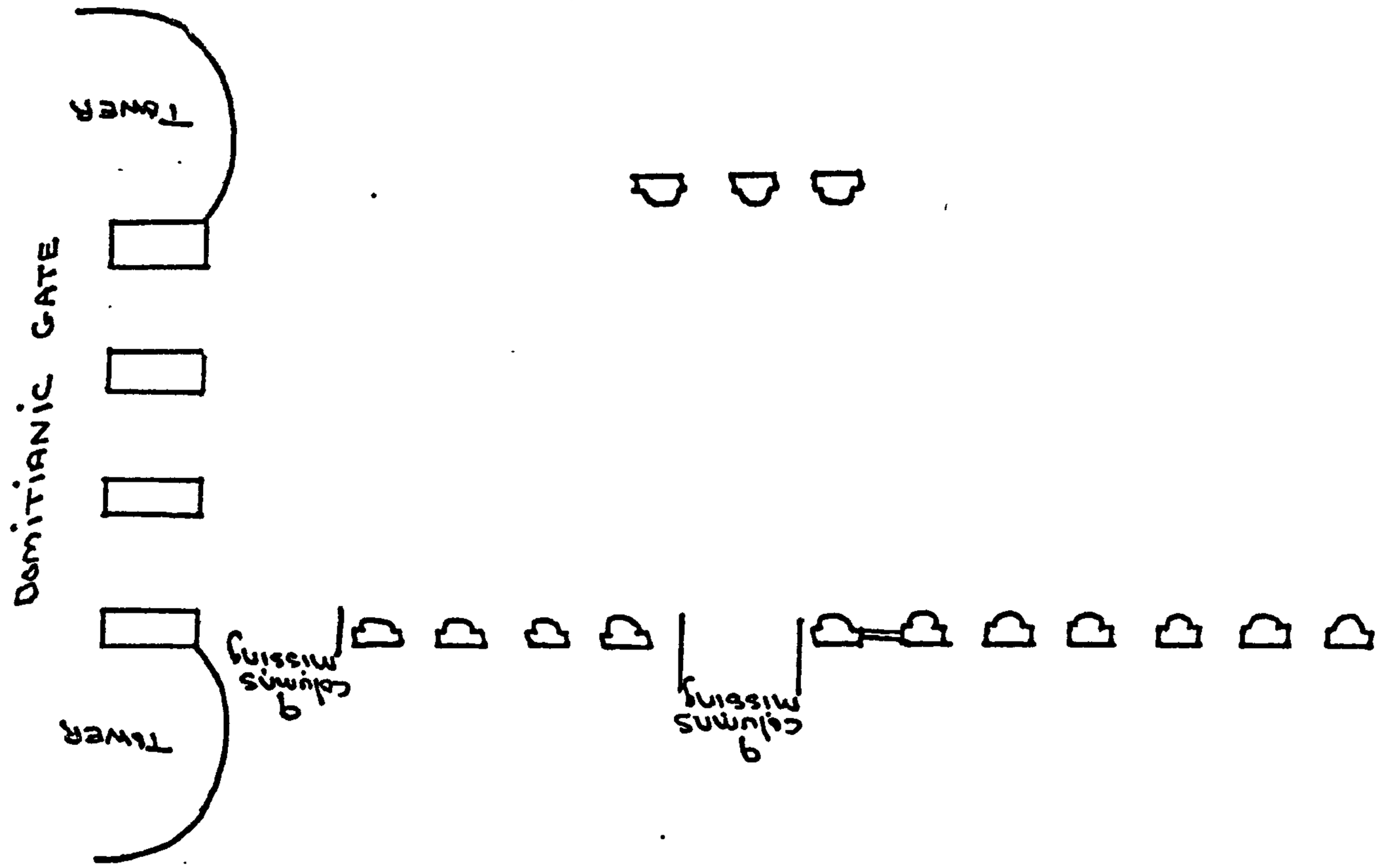
Image removed due to third party copyright

Figure 41 Pergamon - the Order



continued....

Figure 42 Hierapolis-Pamukkale - Schematic Lay-out of Embellished Street


TOWER
DOMITIANIC GATE
TOWER
9 columns missing
9 columns missing

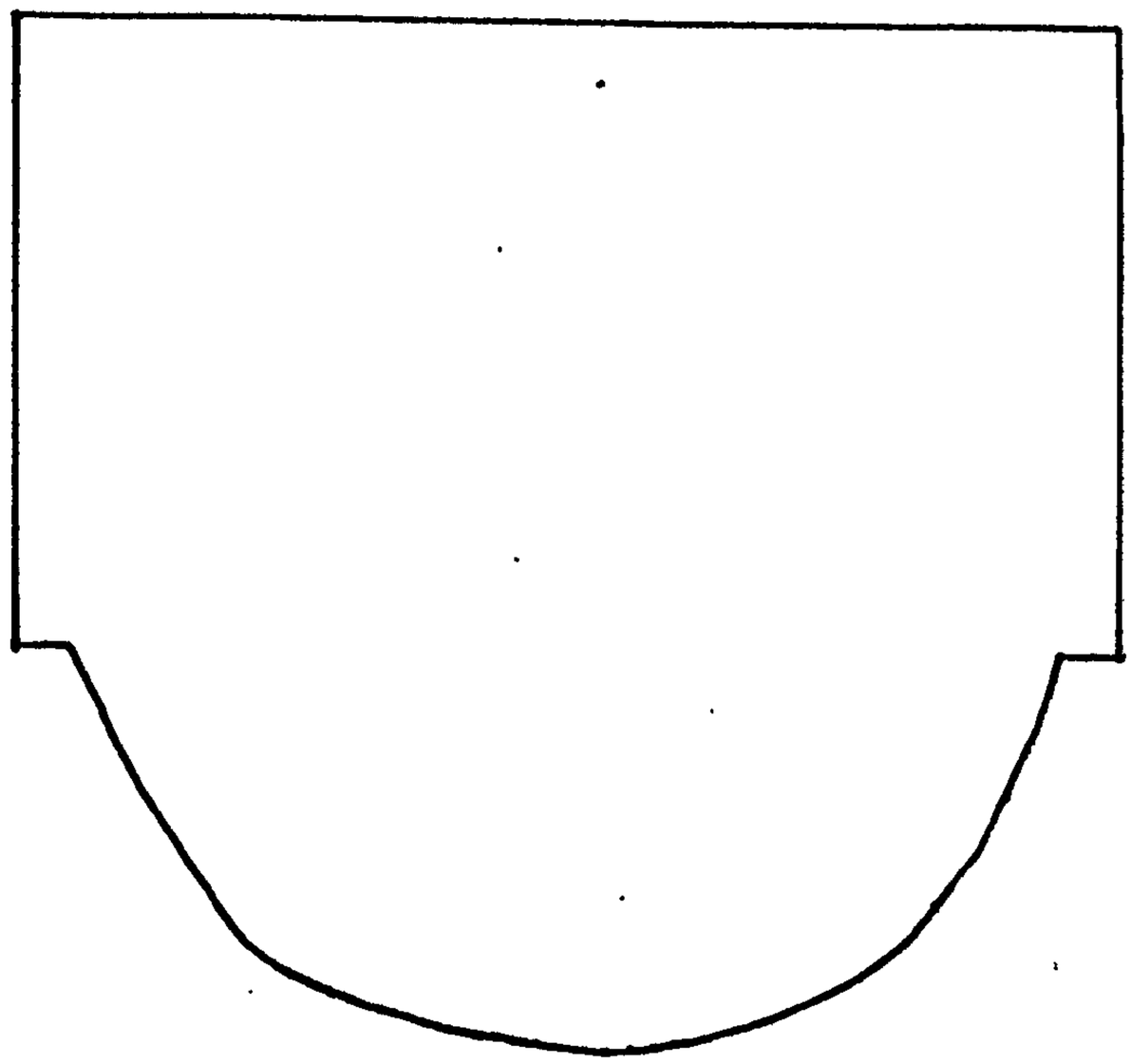


Figure 43 Hierapolis-Pamukkale - Pier and Column 1:6

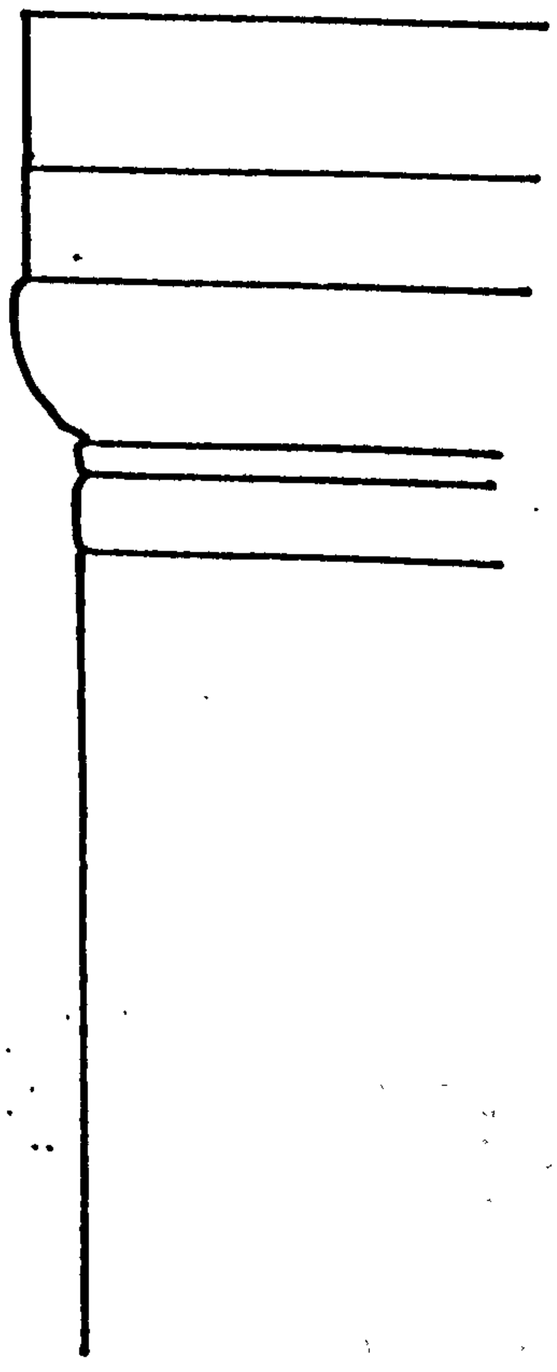


Figure 44 Hierapolis-Pamukkale - Capital 1:6

PLATE 1

a. Pergamon: theatre terrace

b. Corinth: the Lechaion road

PLATE 2

a. Corinth

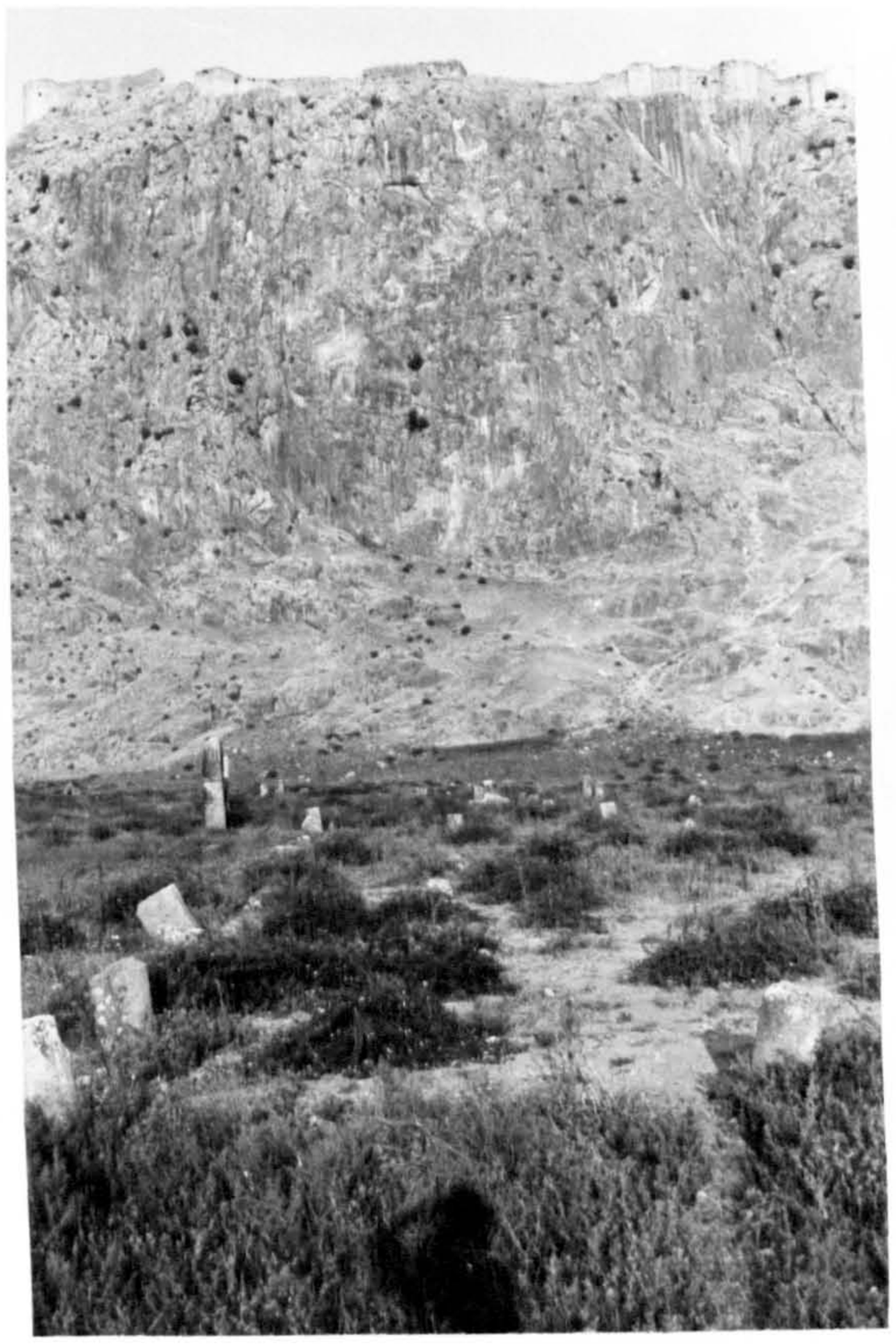
b. Corinth

PLATE 3

a. Anazarbus

b. Anazarbus

PLATE 4



a. Anazarbus

b. Anazarbus

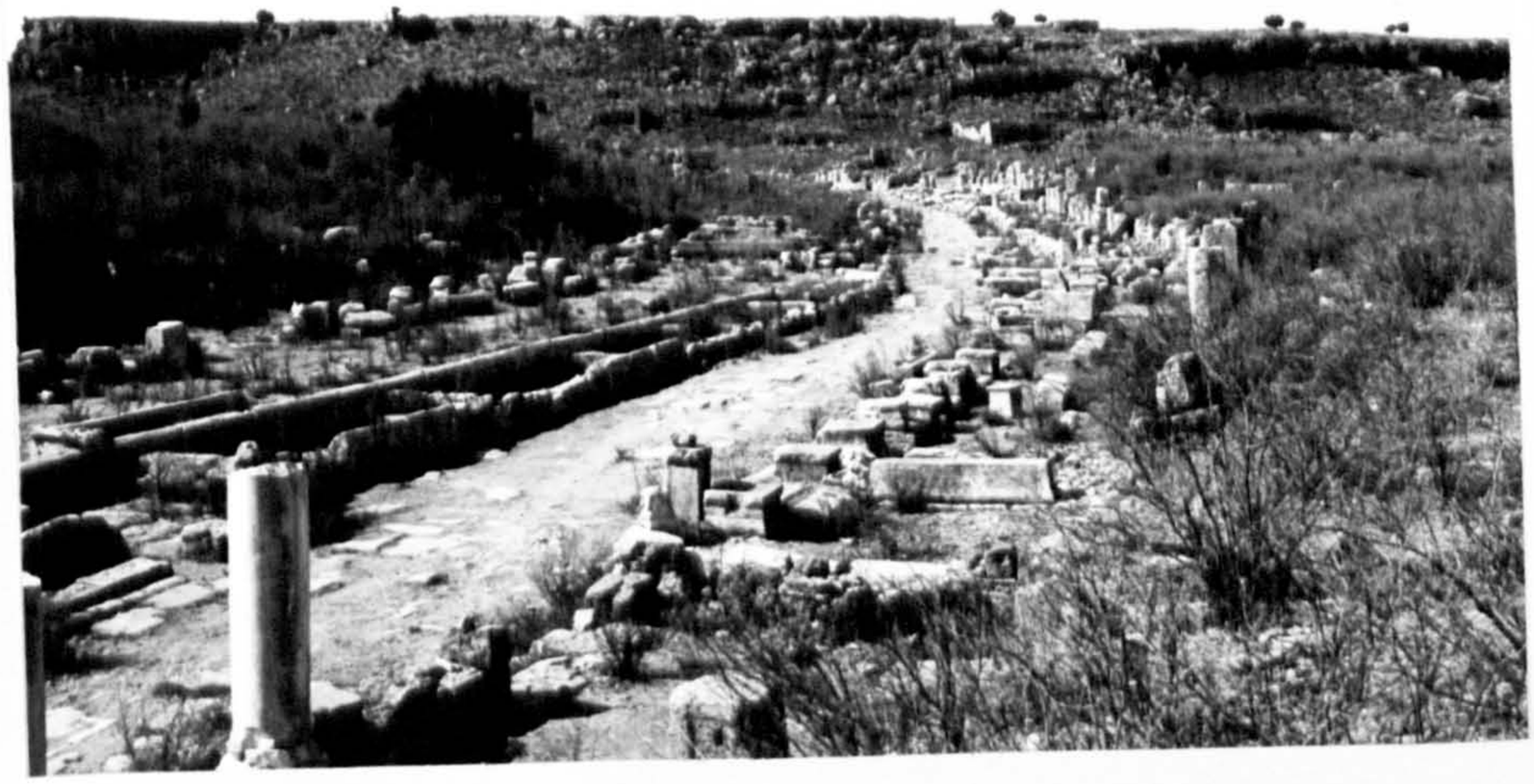
PLATE 5

a. Anazarbus

b. Anazarbus

PLATE 6

a. Perge: the cardo



b. Perge: the cardo

PLATE 7

a. Perge: the cardo

b. Perge: the nymphaeum

a. Perge: the cardo

b. Perge: the cardo

a. Perge: the cardo

b. Perge: the cardo

a. Perge: the cardo

b. Perge: the decumanus

a. Perge: decumanus

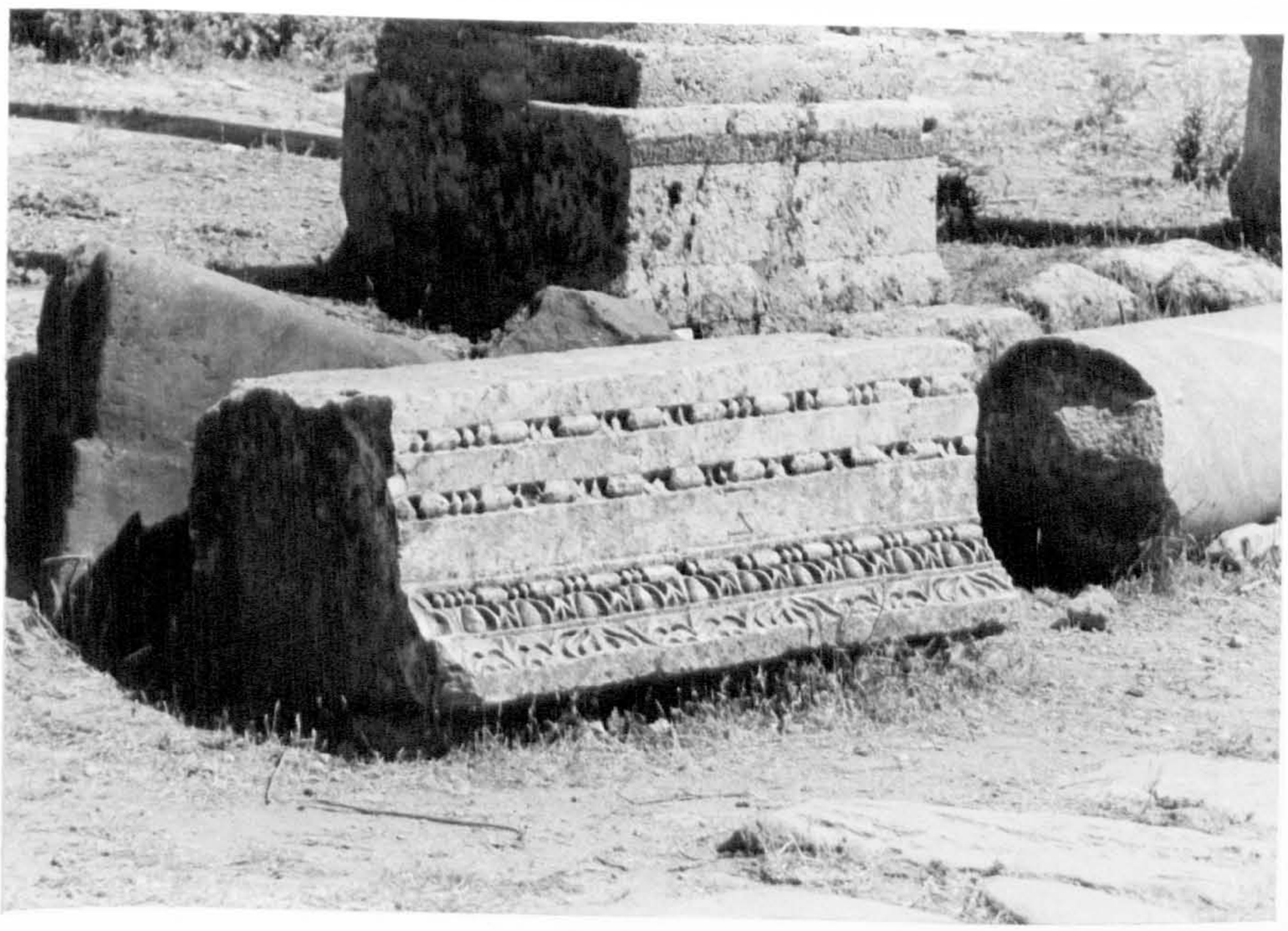
b. Perge: cardo

a. Perge

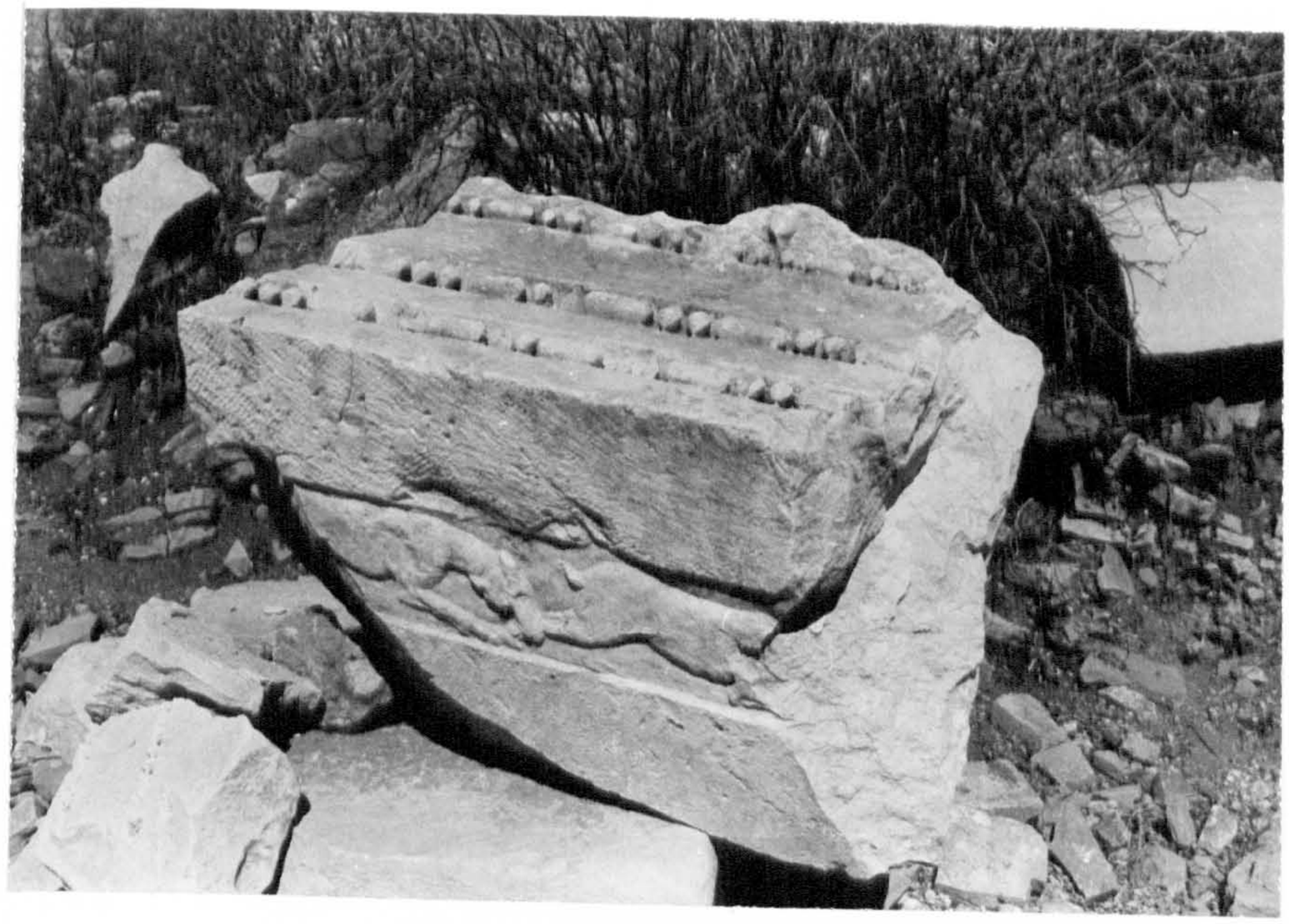
b. Perge

PLATE 13

a. Perge



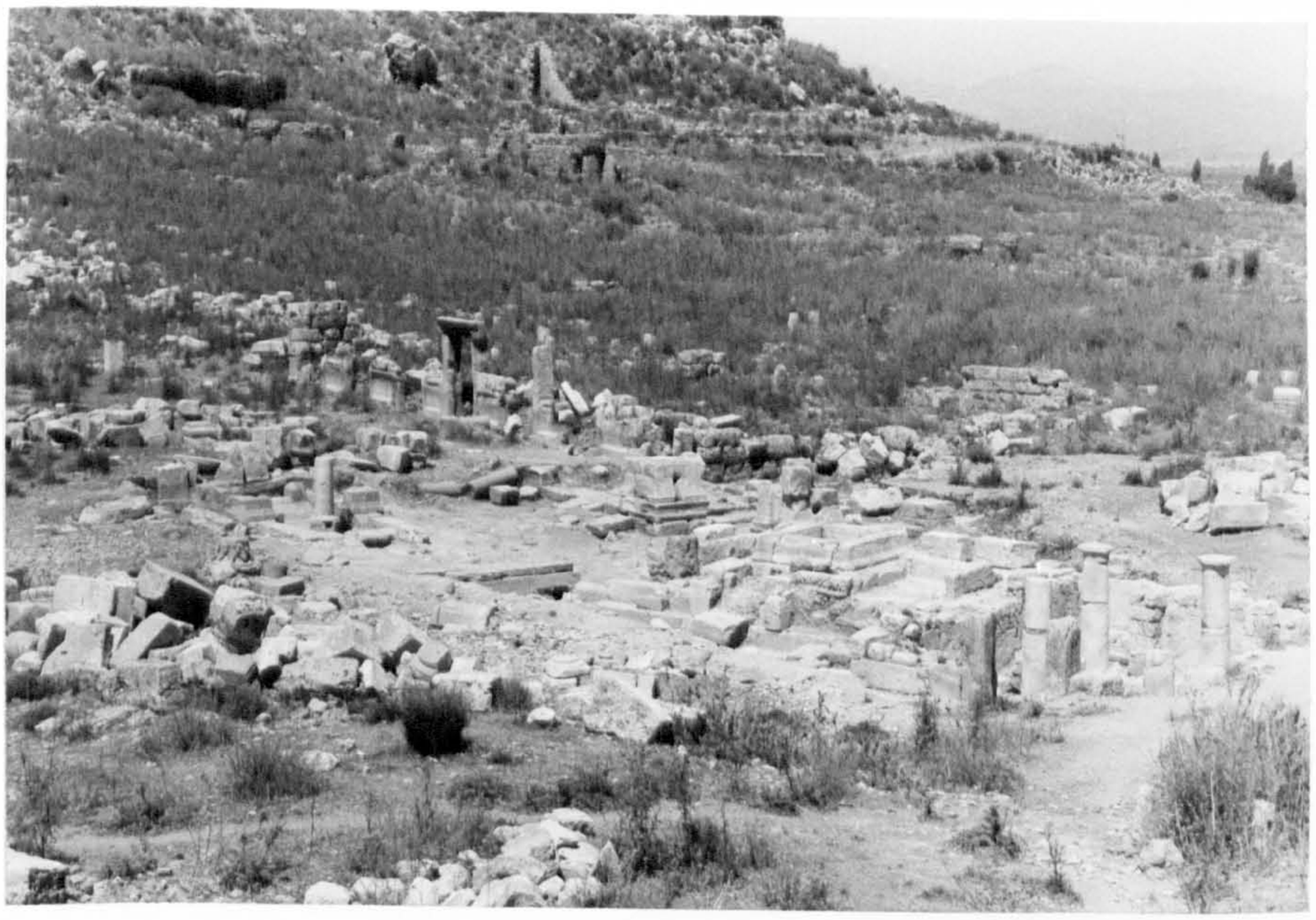
b. Perge



a. Perge

b. Perge

a. Perge



b. Perge

a. Perge

b. Perge: intersection

a. Perge: fragment of arch from intersection

b. Perge: cardo

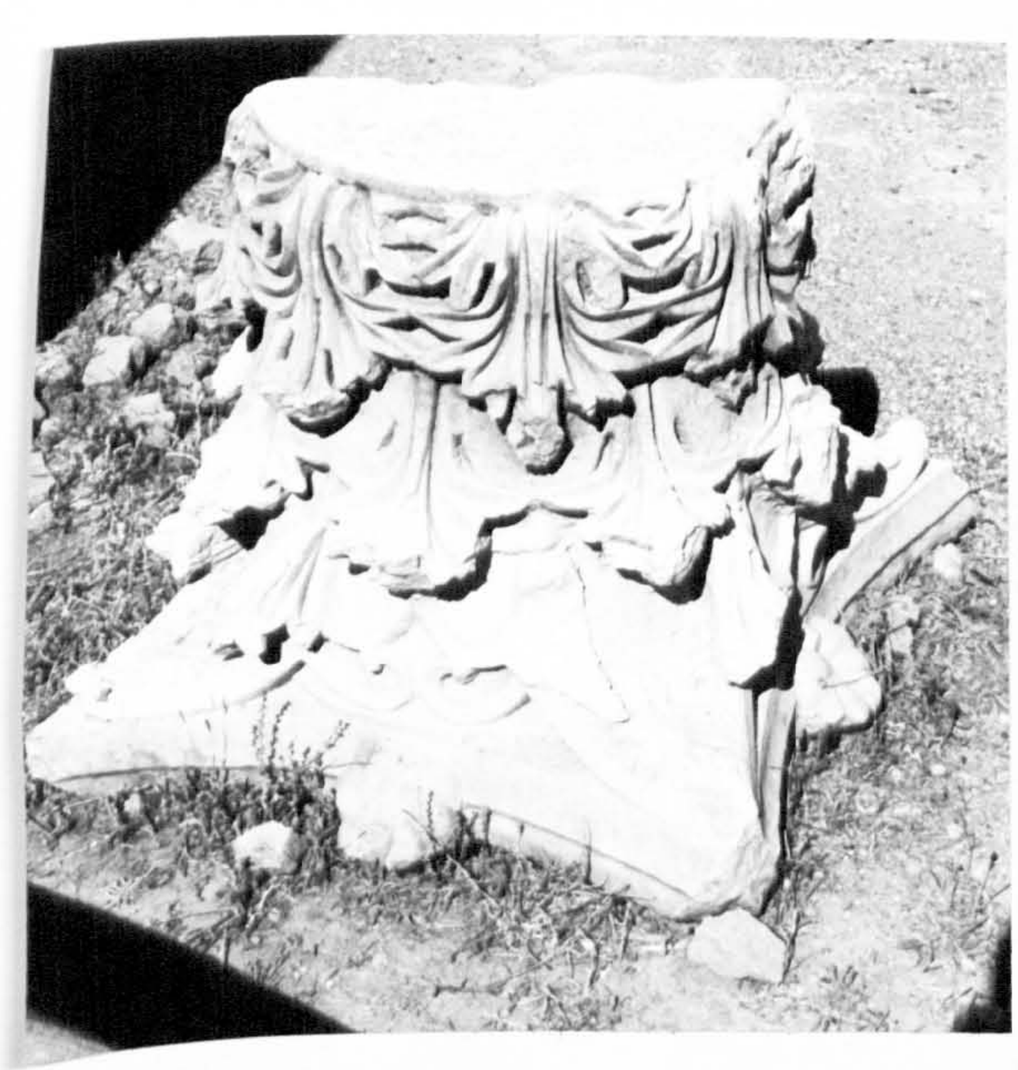
a. Perge; mosaic inscription in portico

b. Perge: mosaic in portico

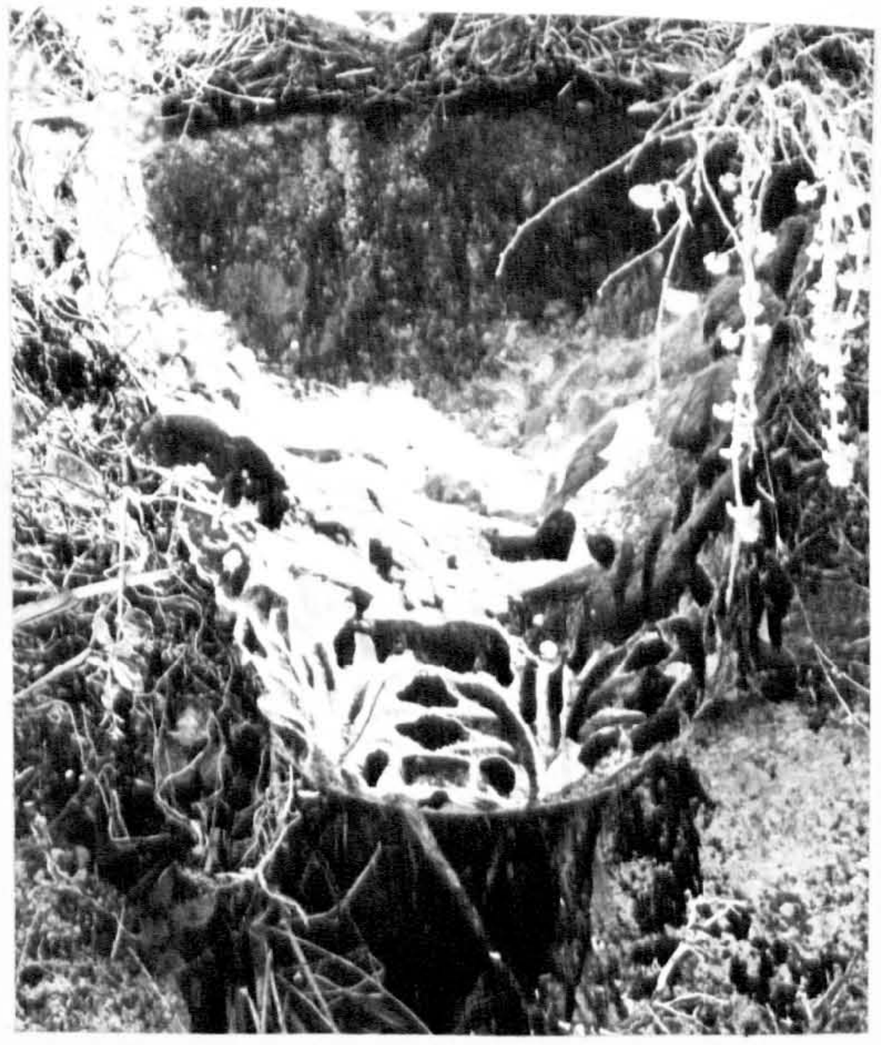
a. Perge: bench on street

b. Perge: southward extension of street

a. Perge



b. Perge



c. Perge

a. Diocaesareia: decumanus looking E.

b. Diocaesareia: decumanus looking W.

a. Diocaesareia: capital from Tychaion

b. Diocaesareia: decumanus, west end

a. Diocaesareia

b. Diocaesareia

a.

b.

c.

Diocaesareia: the order

a. Diocaesareia

b. Diocaesareia

c. Diocaesareia

a. Diocaesareia

b. Diocaesareia

c. Diocaesareia

PLATE 27

a.

b.

c.

d.

PLATE 28

a. Diocaesareia: nymphaeum on street

b. Entablature fragment from nymphaeum

c. Capital from decumanus

a. Diocaesareia: gateway from NW

b. Diocaesareia: gateway from W

a. Diocaesareia: gateway from E

b. Diocaesareia: gateway from W

a.

b.

c.

d.

Diocaesareia: capitals of gateway

a. Diocaesareia: architrave block

b. Cutting in column of gateway

c. Diocaesareia: cardo looking N.

a. Hierapolis-Castabala: street from W

b. Hierapolis-Castabala

a. Hierapolis-Castabala: street from E.

b. Hierapolis-Castabala

PLATE 35

a.

b.

c.

d.

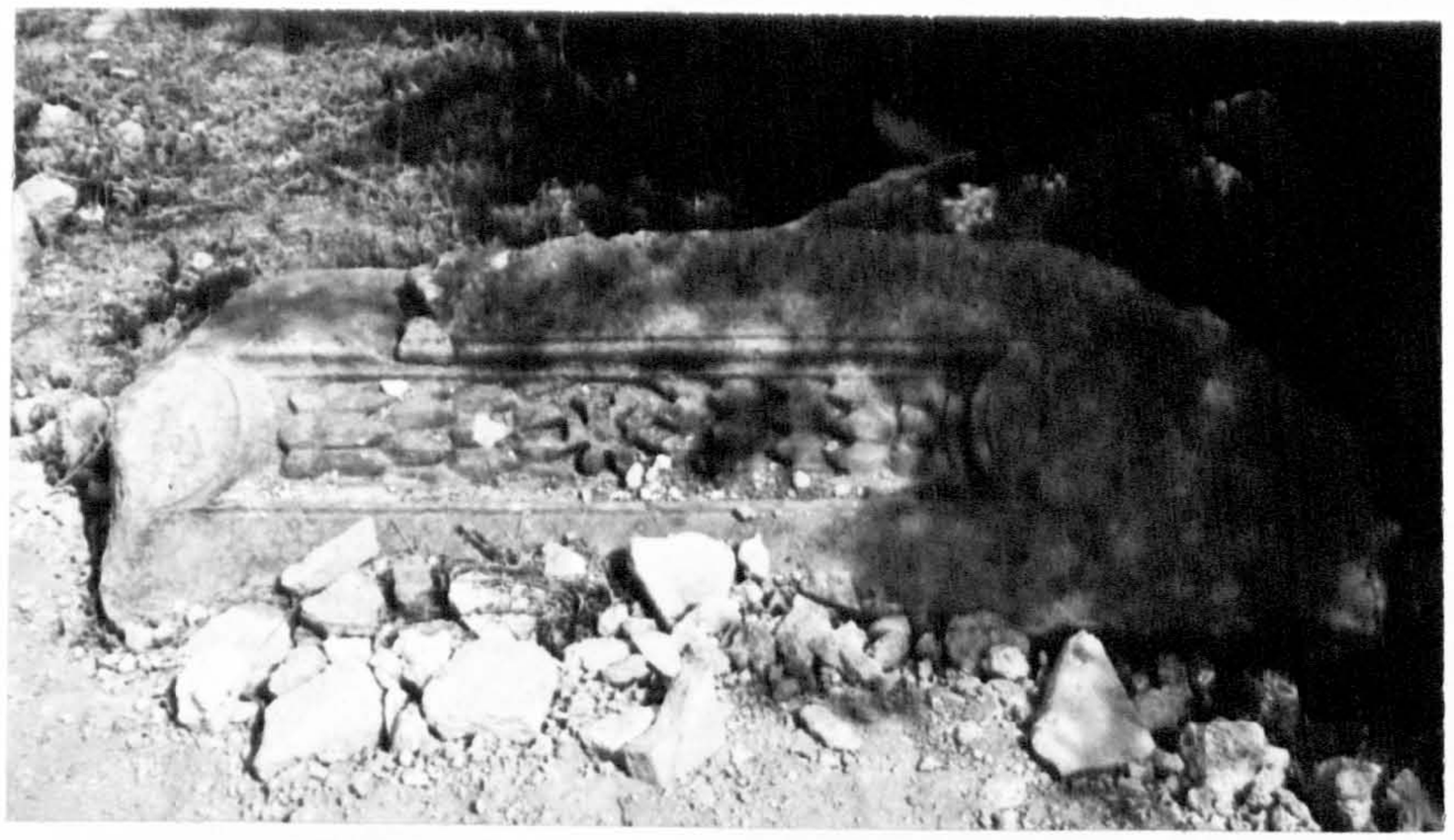
Hierapolis-Castabala: capitals from decumanus

a. Hierapolis-Castabala

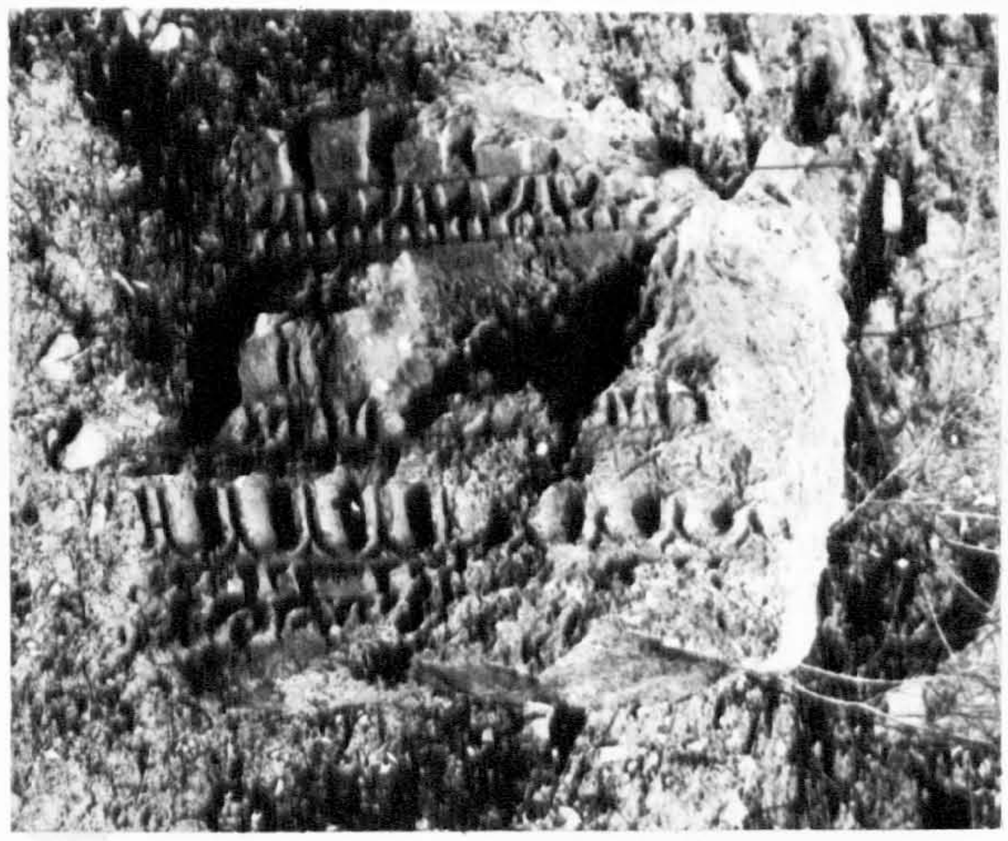
b. Hierapolis-Castabala

a.

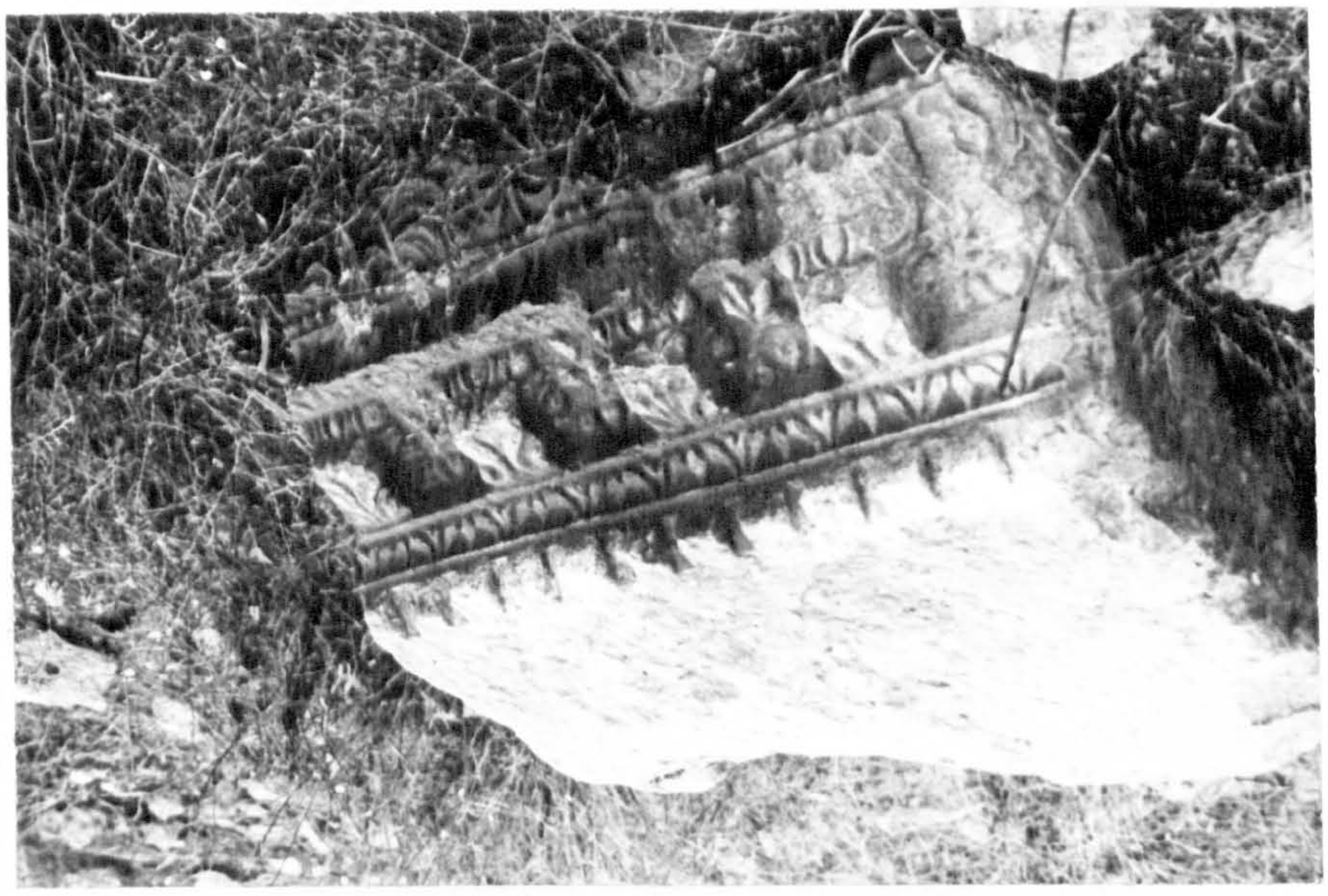
b. Architrave fragment



c. Soffit of architrave



d. Cornice fragment



a. Hierapolis-Castabala: cornice block

b. Hierapolis-Castabala: pedestal

a. Hierapolis-Castabala:
later doorway on street

b. Fragments of doorway similar
to above

a. Hierapolis-Castabala

b. Hierapolis-Castabala: column with console

a. Cornice fragment

b. Base from lower street

c. Hierapolis-Castabala: lower street

a. Side: capital from temple
by harbour

b. Side: frieze fragment from temple by
harbour

PLATE 43

a. Side

b. Side: column fragments at N. end of main colonnaded street A

c. Side: column fragments at N. end of street

PLATE 44

a. Side: main street and shops

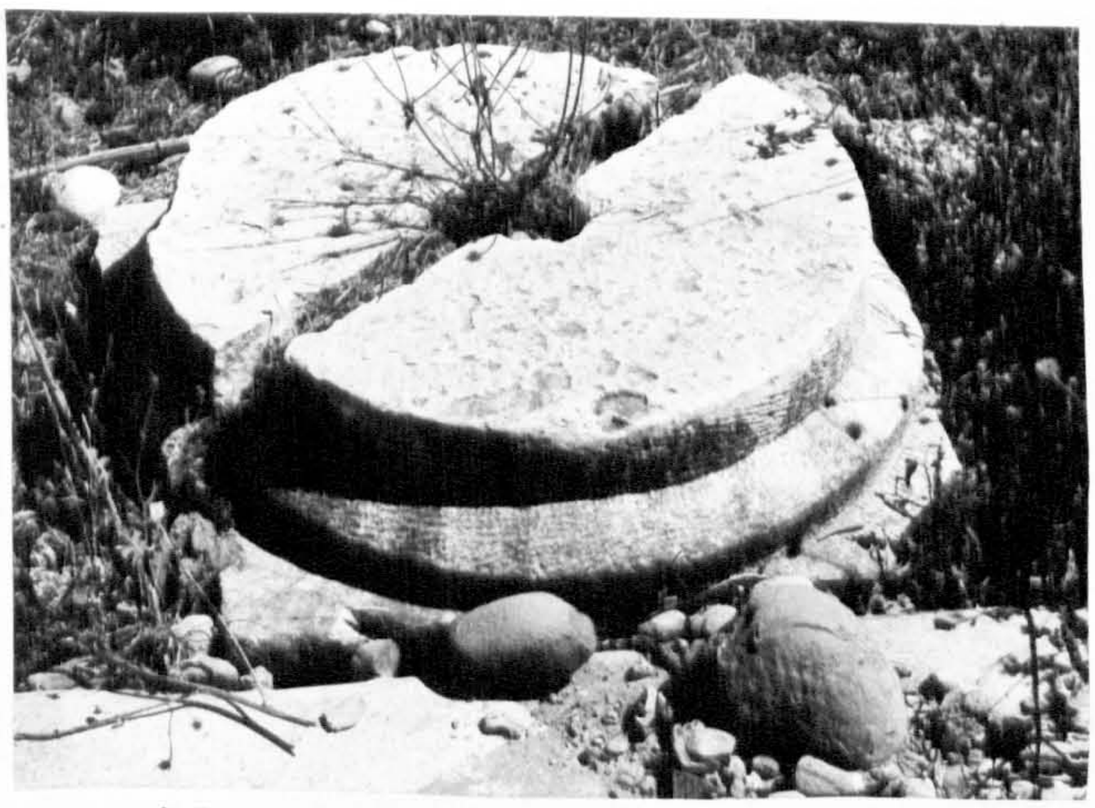
b. Side: entrance to side street off main colonnaded street A

a. Side: frieze from street A

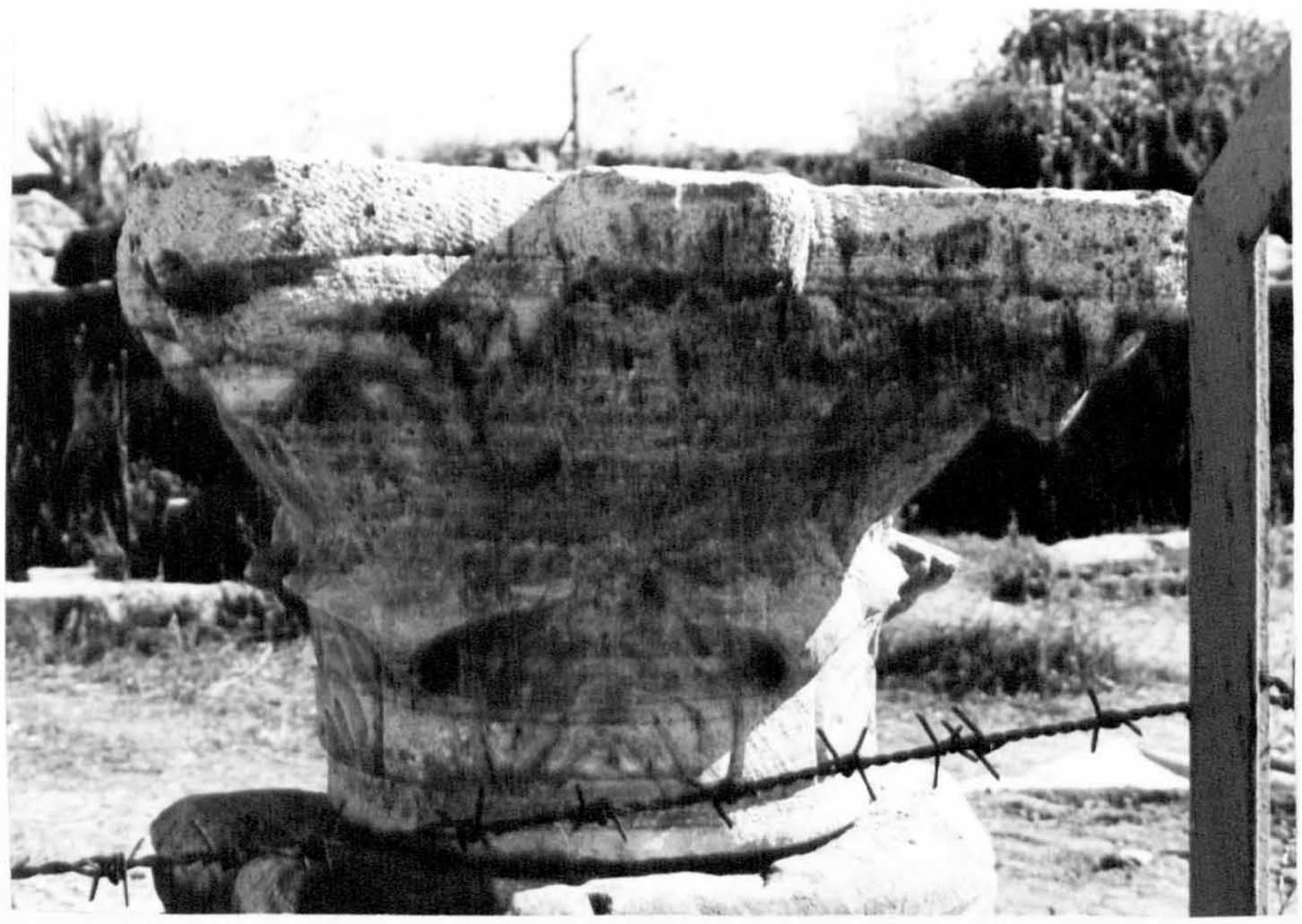
b. Side: capital and base from main street A

c. Side: capital from main street A

PLATE 46

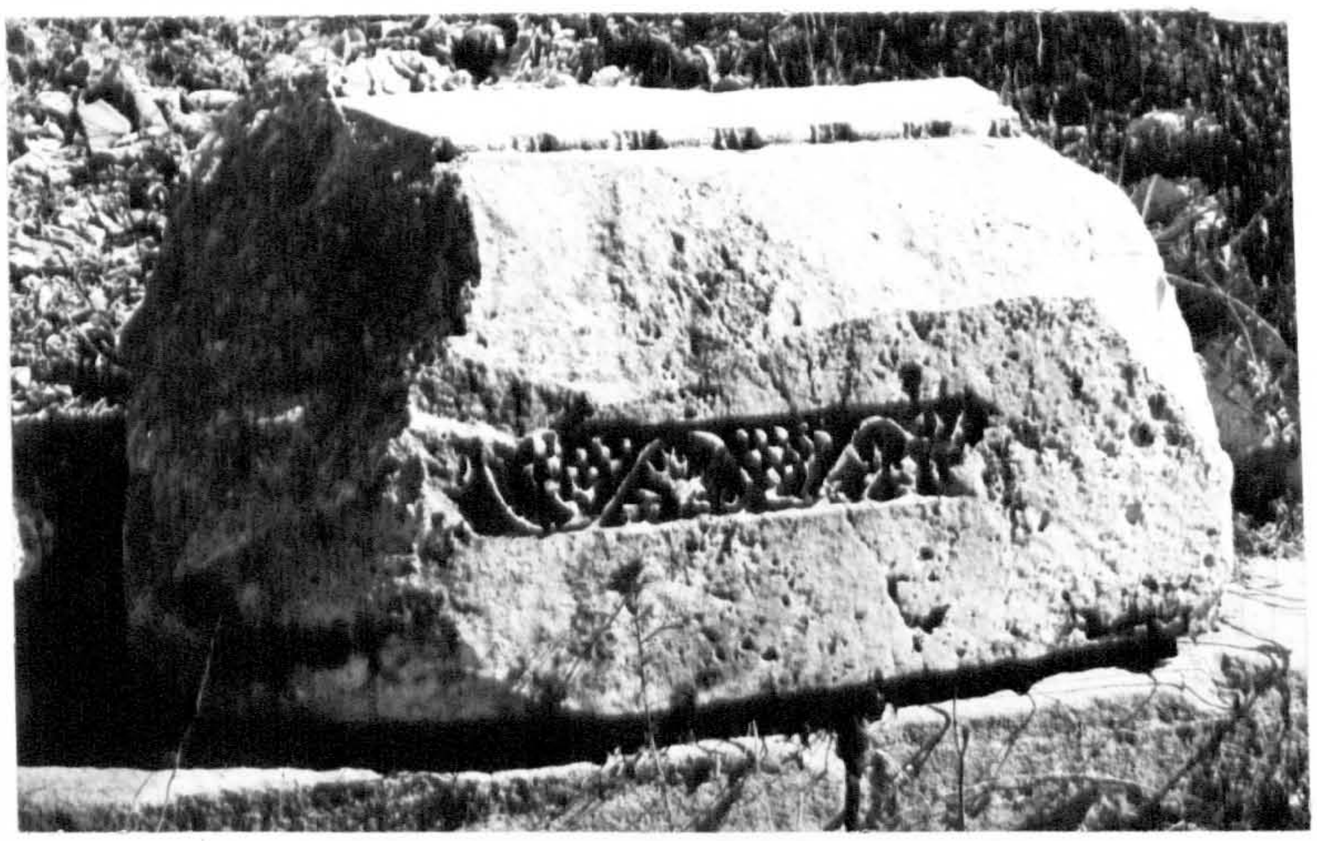


a. Side: base from street A



b. Side: capital from street A

c. Side: street A near agora

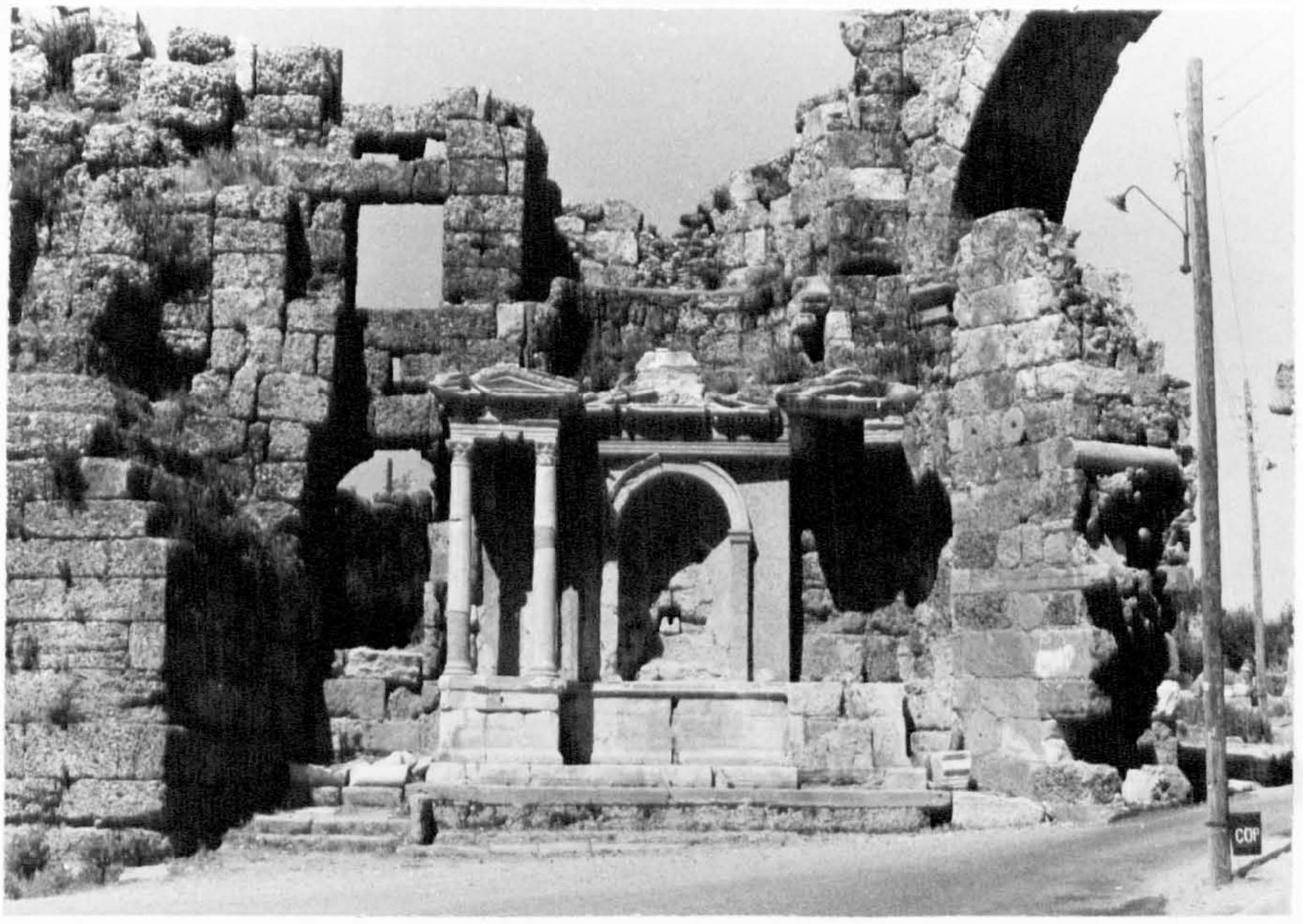


a. Soffit of architrave from street A

b. Side: street A

c. Side: street A

a. Side: S. end of street A



b. Side: Flavian monument

a. Side: street B looking N., W. side

b. Side: street B

a. Side: street B, E. side

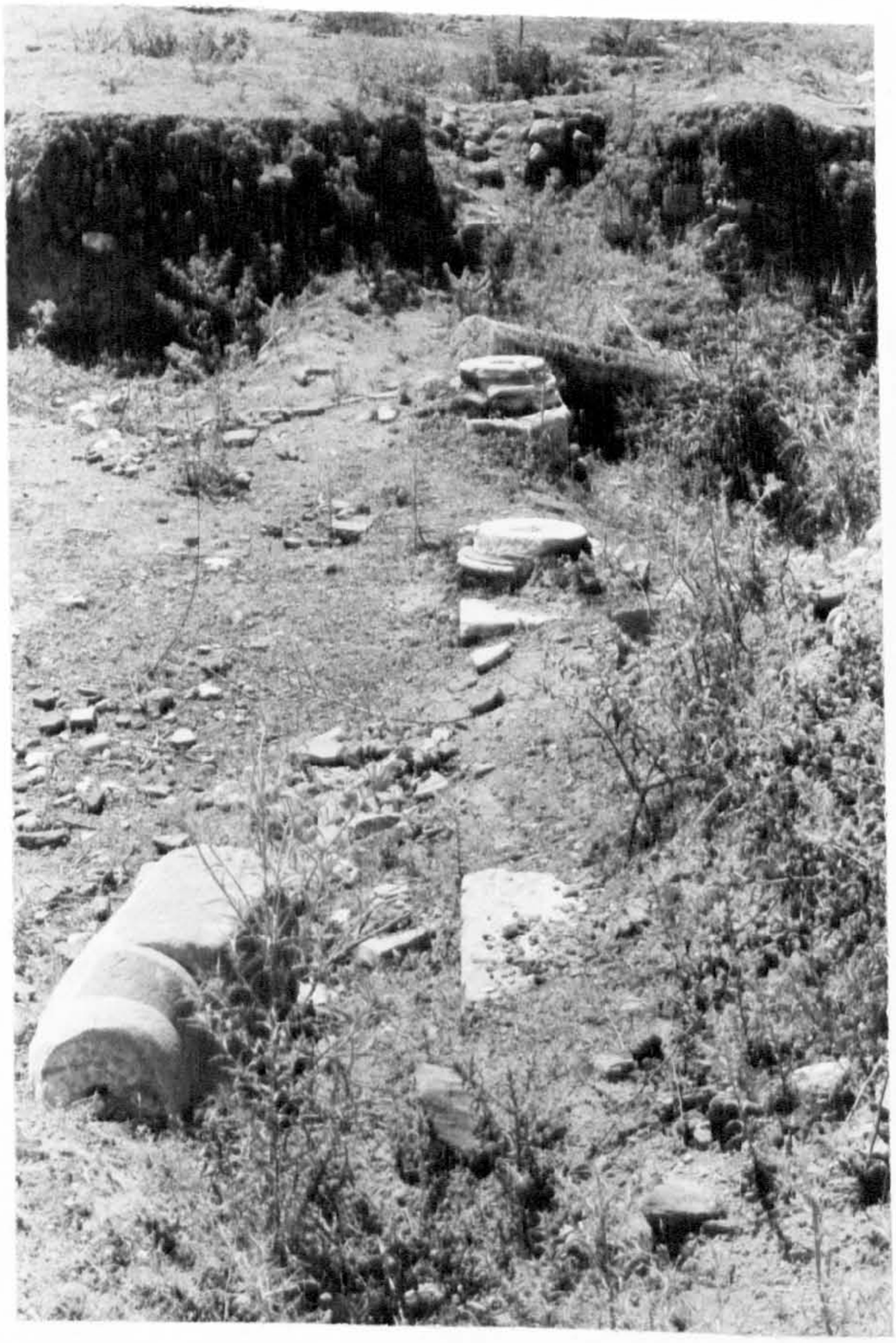
b. Street B

c. Street E

a. Sardis: main E-W colonnaded street

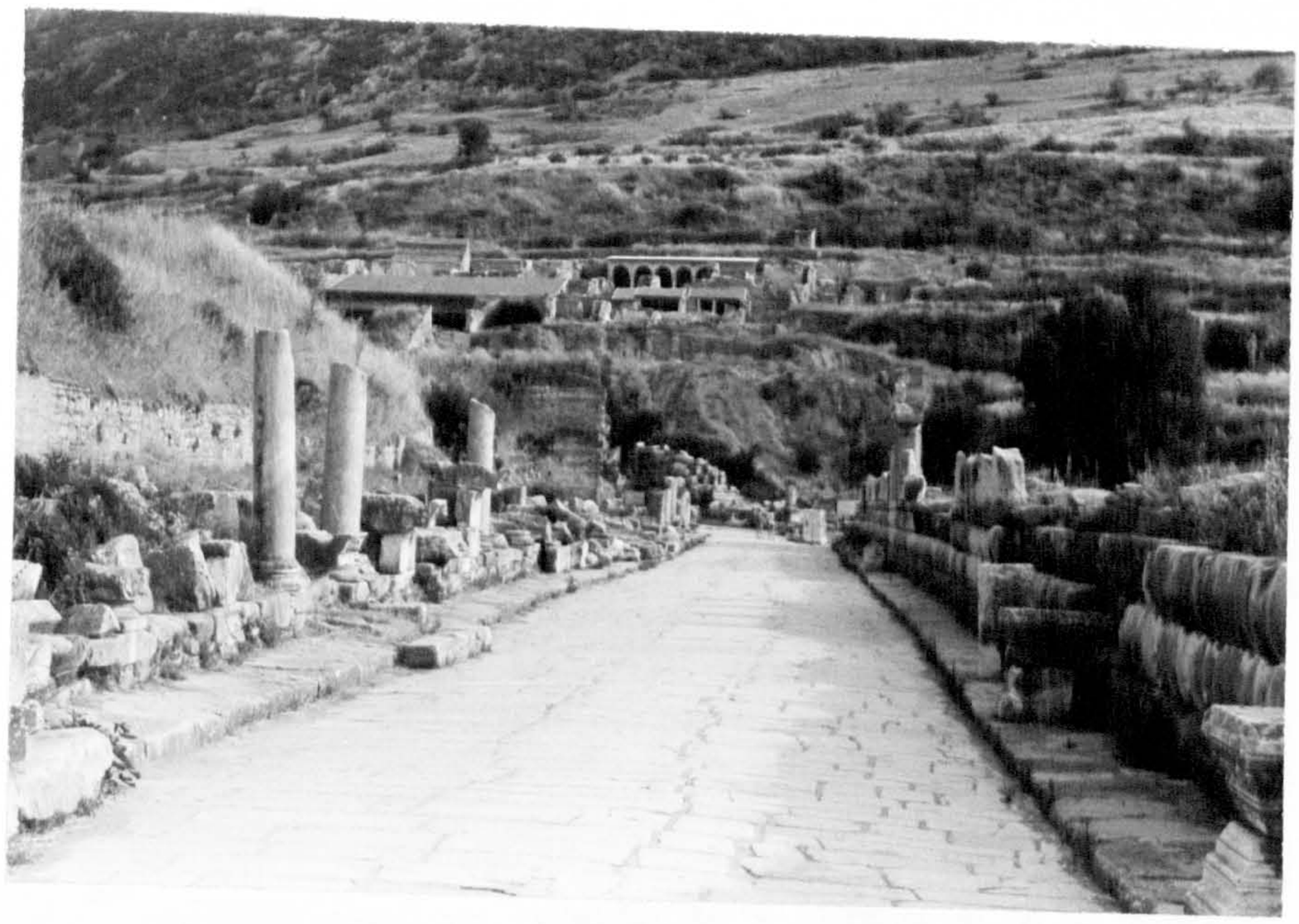
b. Sardis: main street

a. Sardis: main colonnaded street from W.

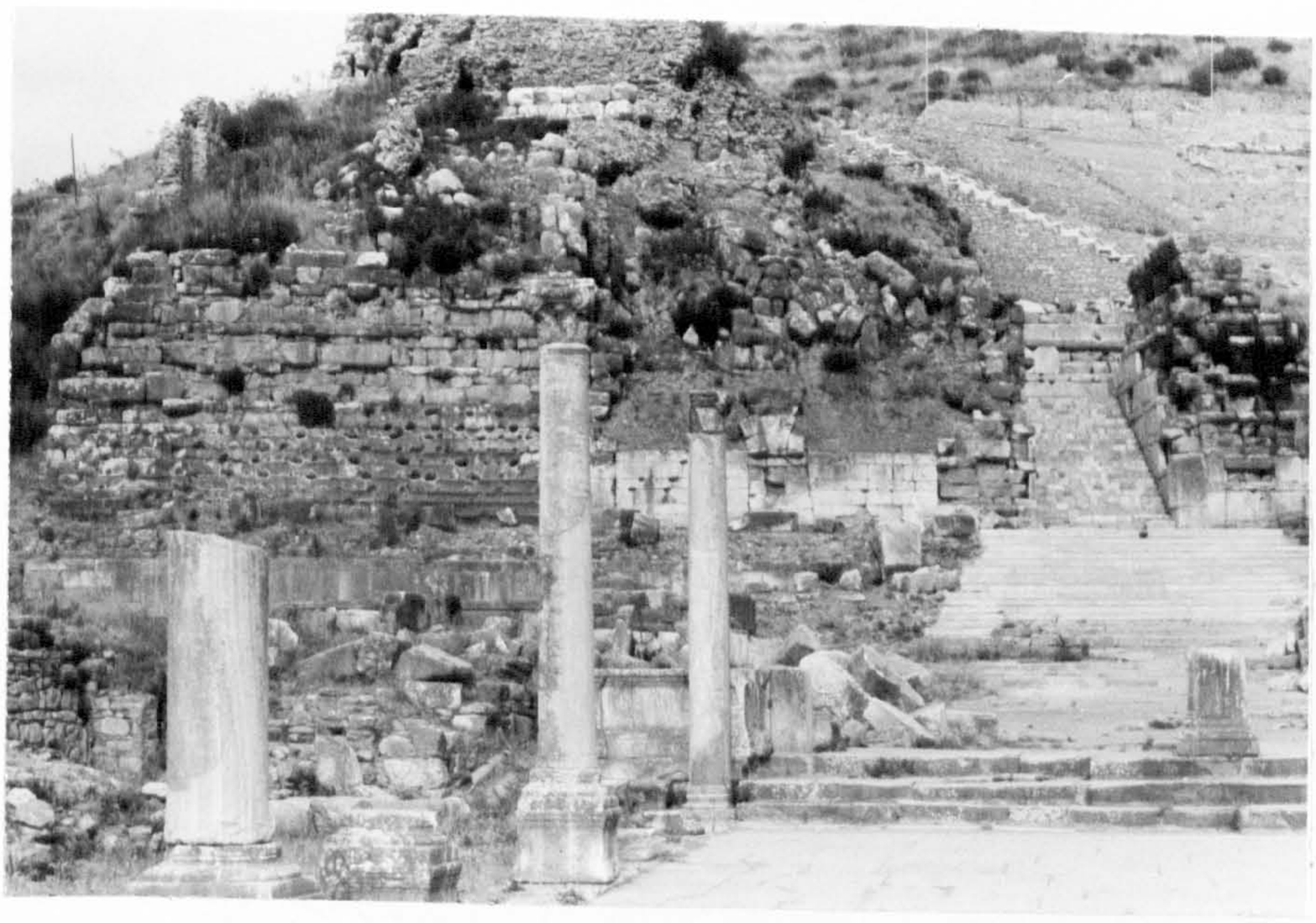


b. Sardis: embolos

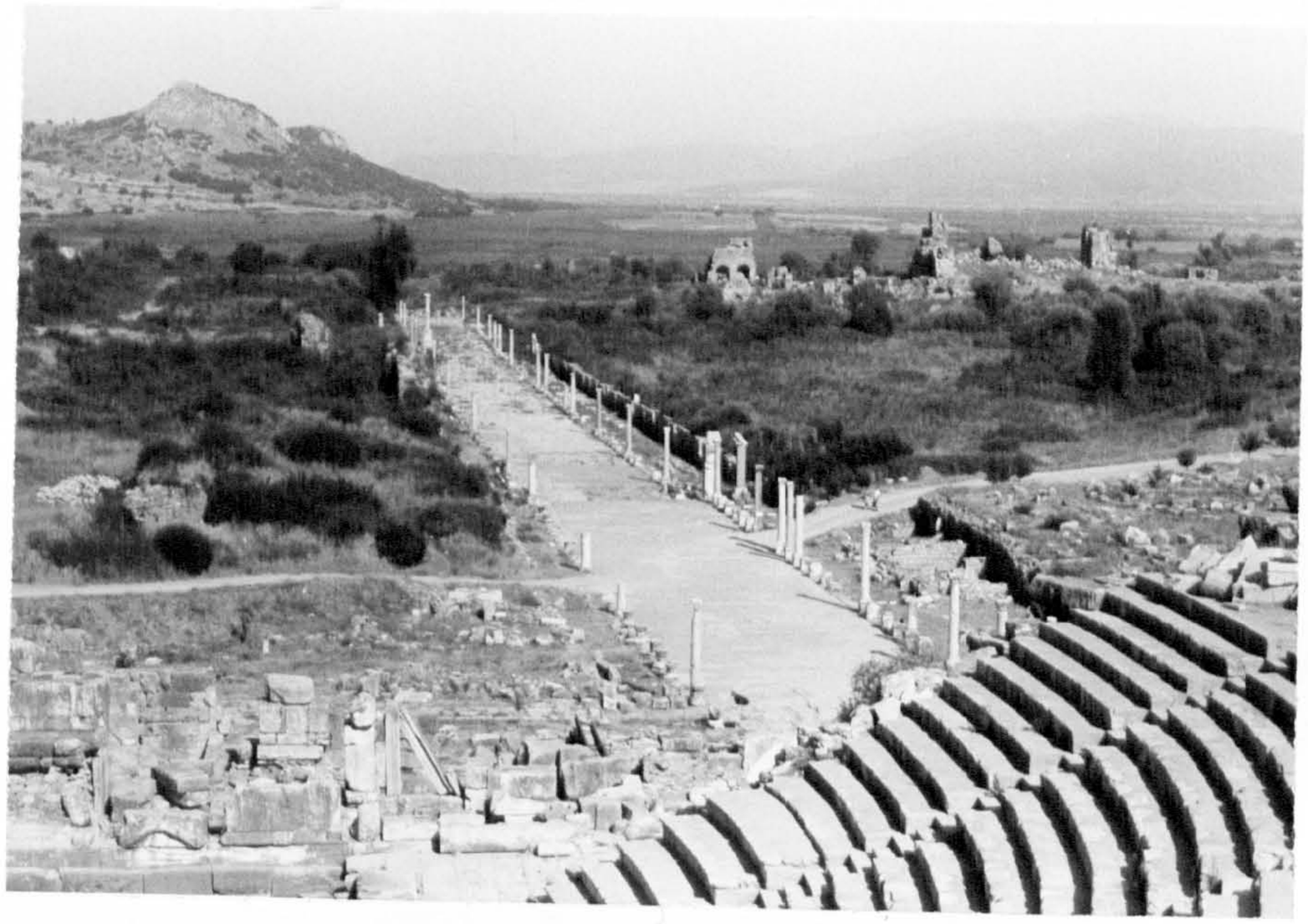
c. Pedestal



a. Ephesus: marble street from N.



b. Ephesus: E. end of Arkadiane



a. Ephesus: Arkadiane from E.

b. Ephesus: Arkadiane from W.

a. Ephesus: Arkadiane, S. side

b. Arkadiane, N. side

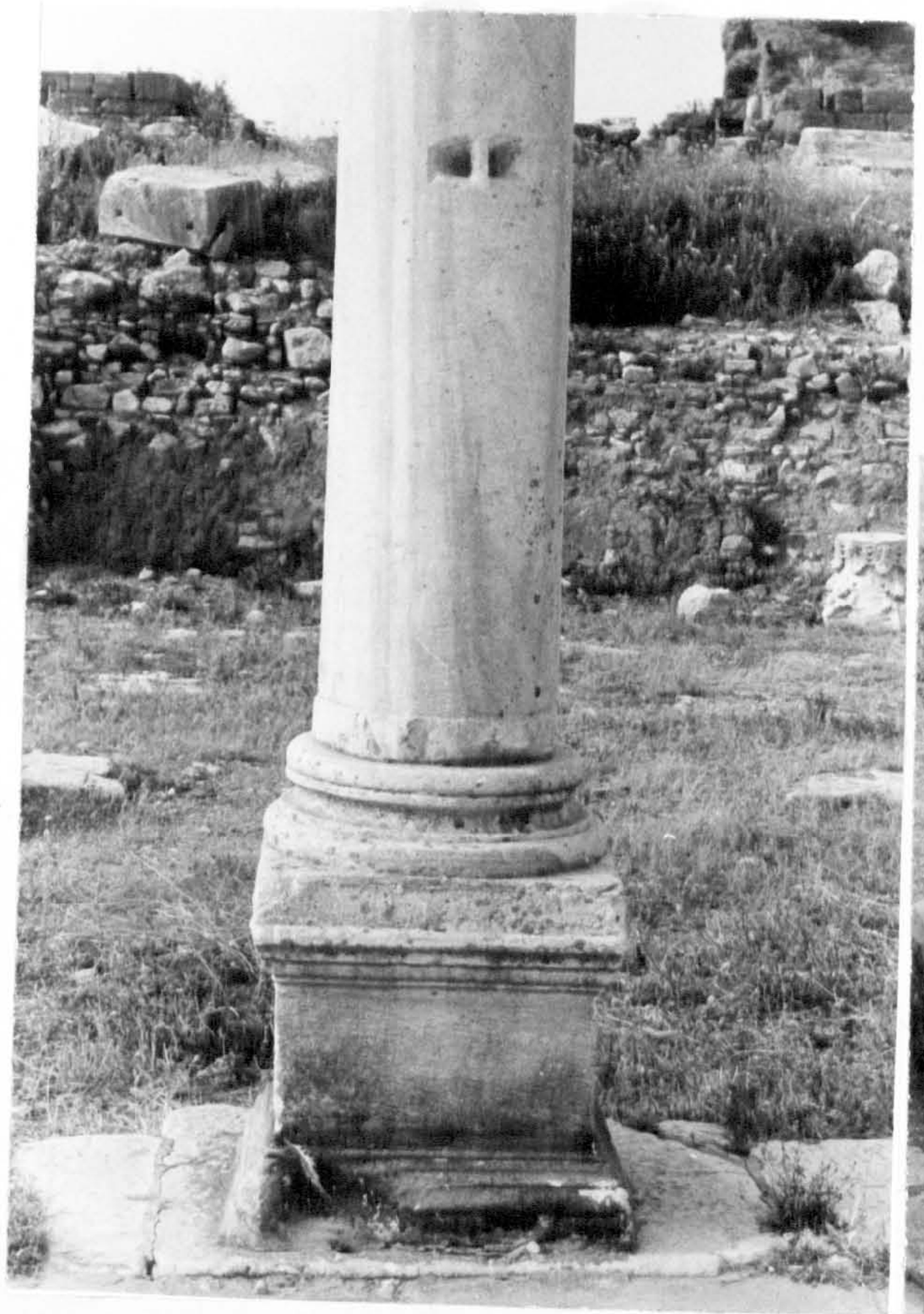
c. Capital from N. side

a.

b.

c.

Ephesus: capitals from Arkadiane



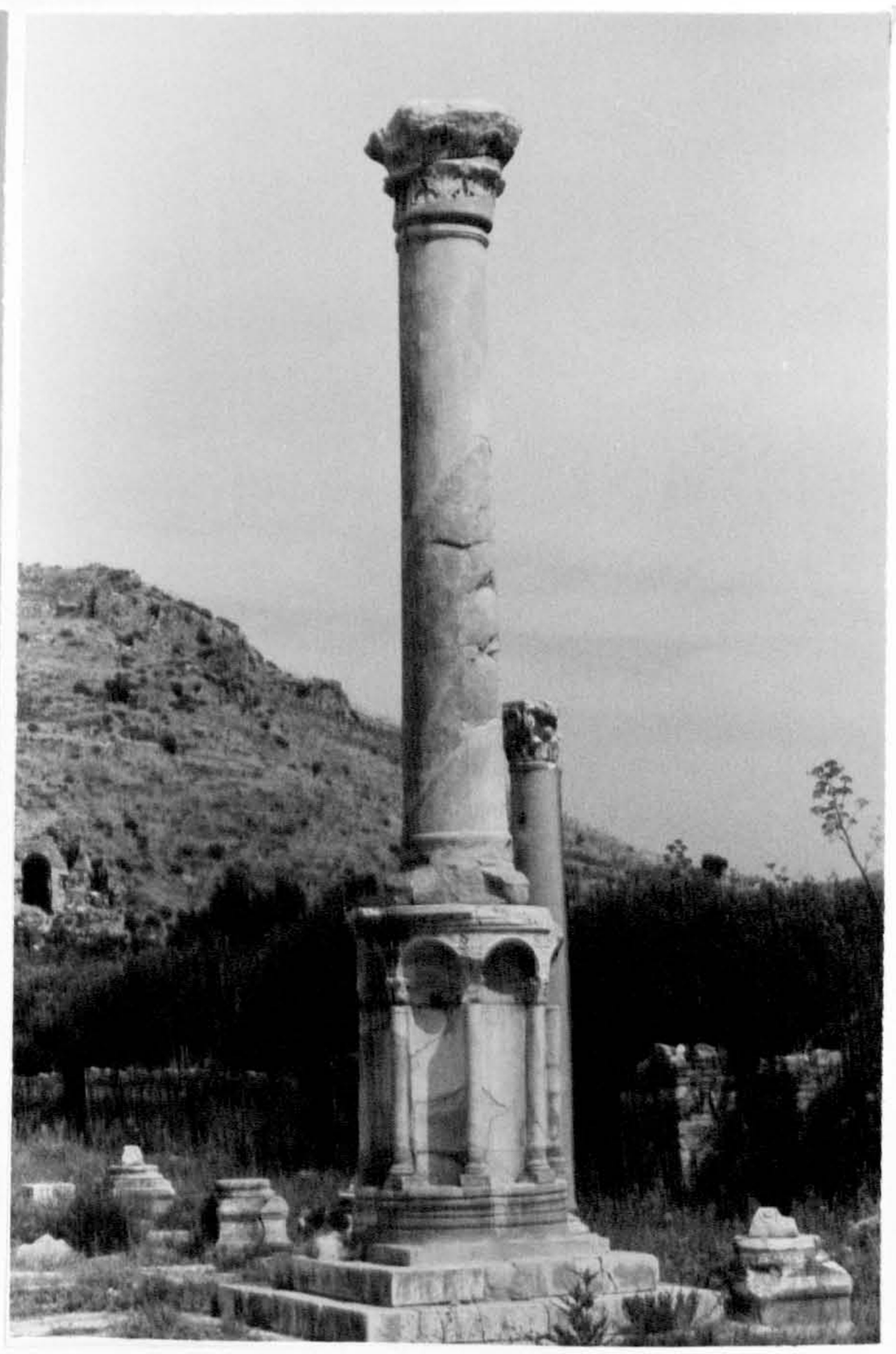
a. Ephesus: pedestal and column on Arkadiane

b. Capital from Arkadiane

c. Soffit of architrave block from Arkadiane

a. Ephesus: semicircular exedra on S. side of Arkadiane

b. Decorative column on Arkadiane from E.

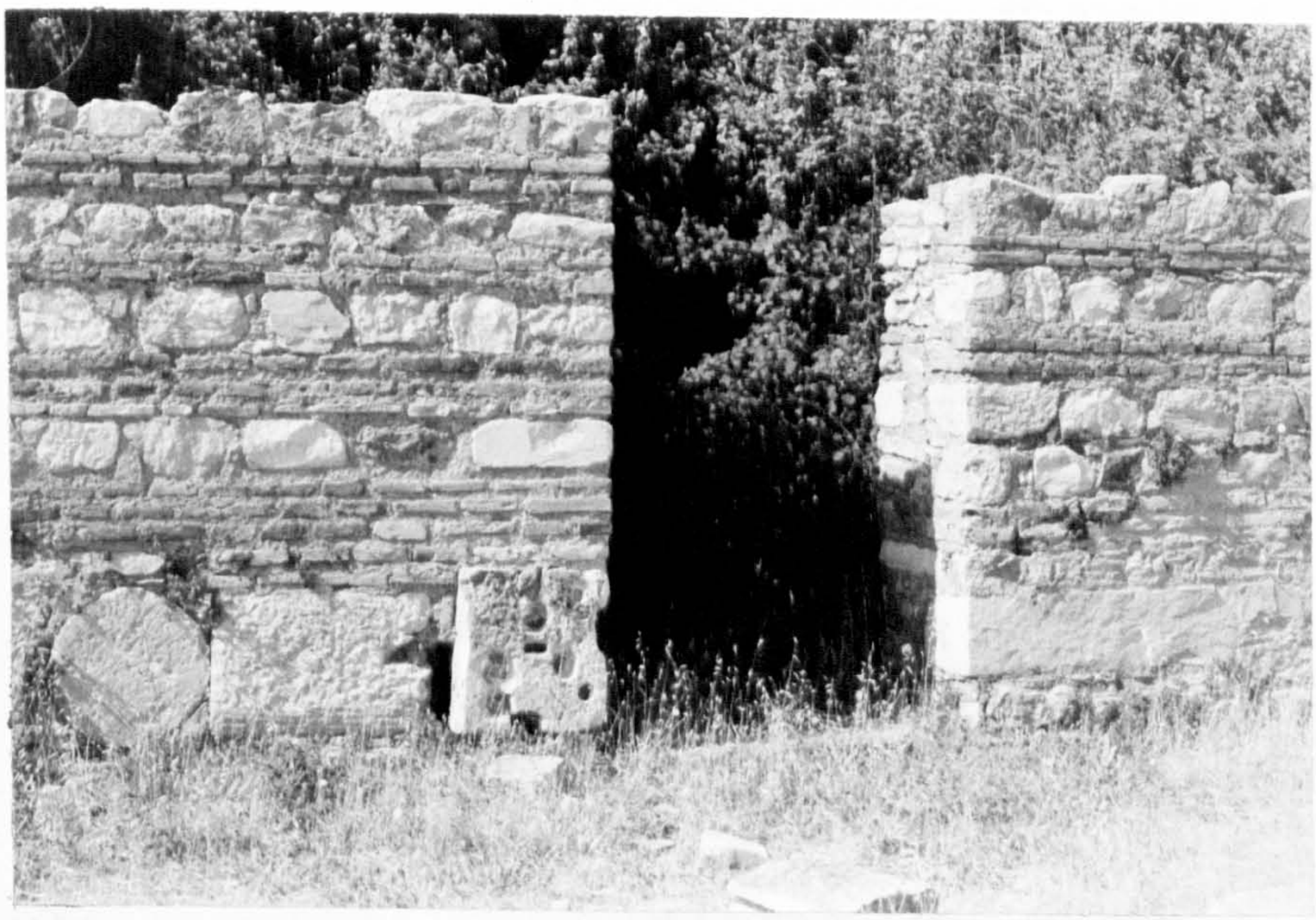


c. Column from W.

a. Ephesus: junction of porticoes on
N. side of Arkadiane from E.

b. Ephesus: junction of porticoes from S.

a. Ephesus: shop walls on S. side of Arkadiane



b. Ephesus: shop walls and door

a. Ephesus: Curetes Street

b. Ephesus: Curetes Street

a. Soli-Pompeiopolis: main street

b. Soli-Pompeiopolis

a. Soli -Pompeiopolis: main street, W. side

b. Soli -Pompeiopolis: E. side of main street, N. end

a. Soli -Pompeiopolis: console

b.

c.

a.

b.

c.

Soli -Pompeiopolis: capitals

a.

b.

c.

Soli -Pompeiopolis: capitals

a.

b.

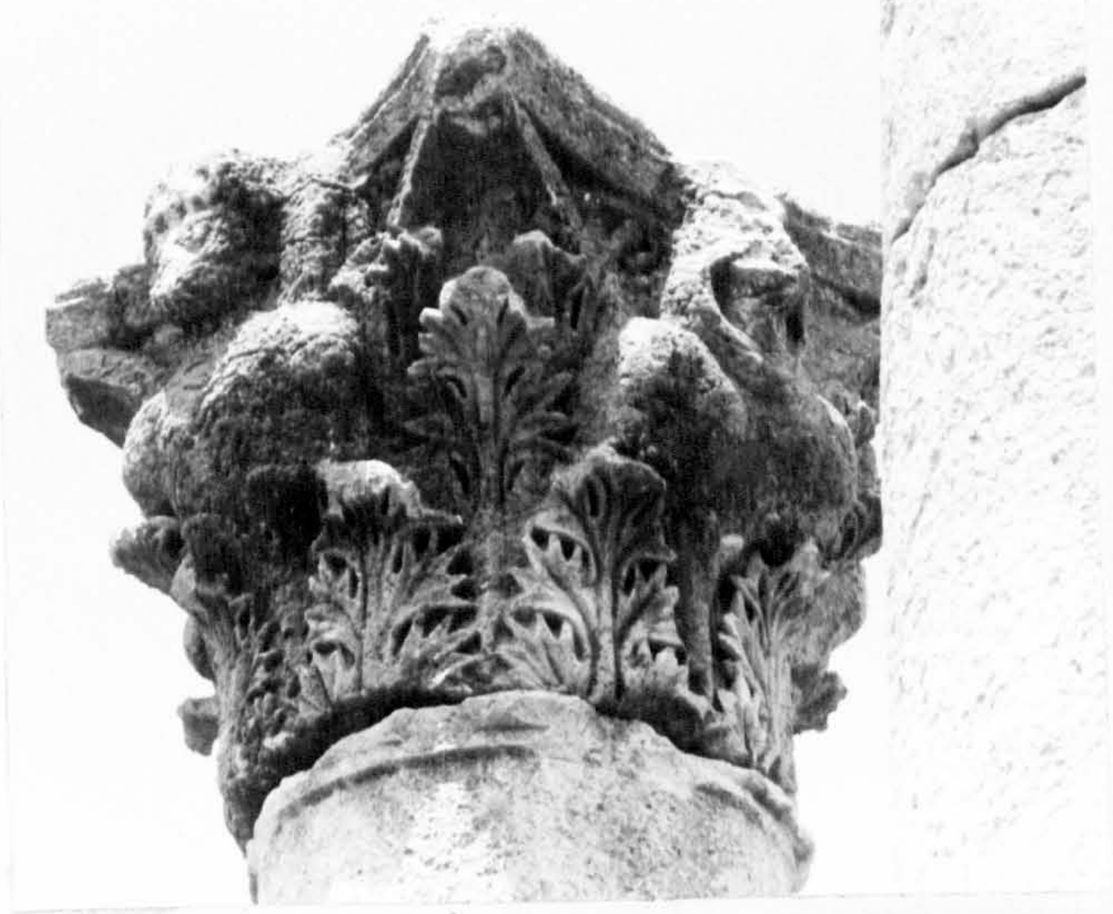
c.

d.

Soli -Pompeiopolis: capitals

a.

b.

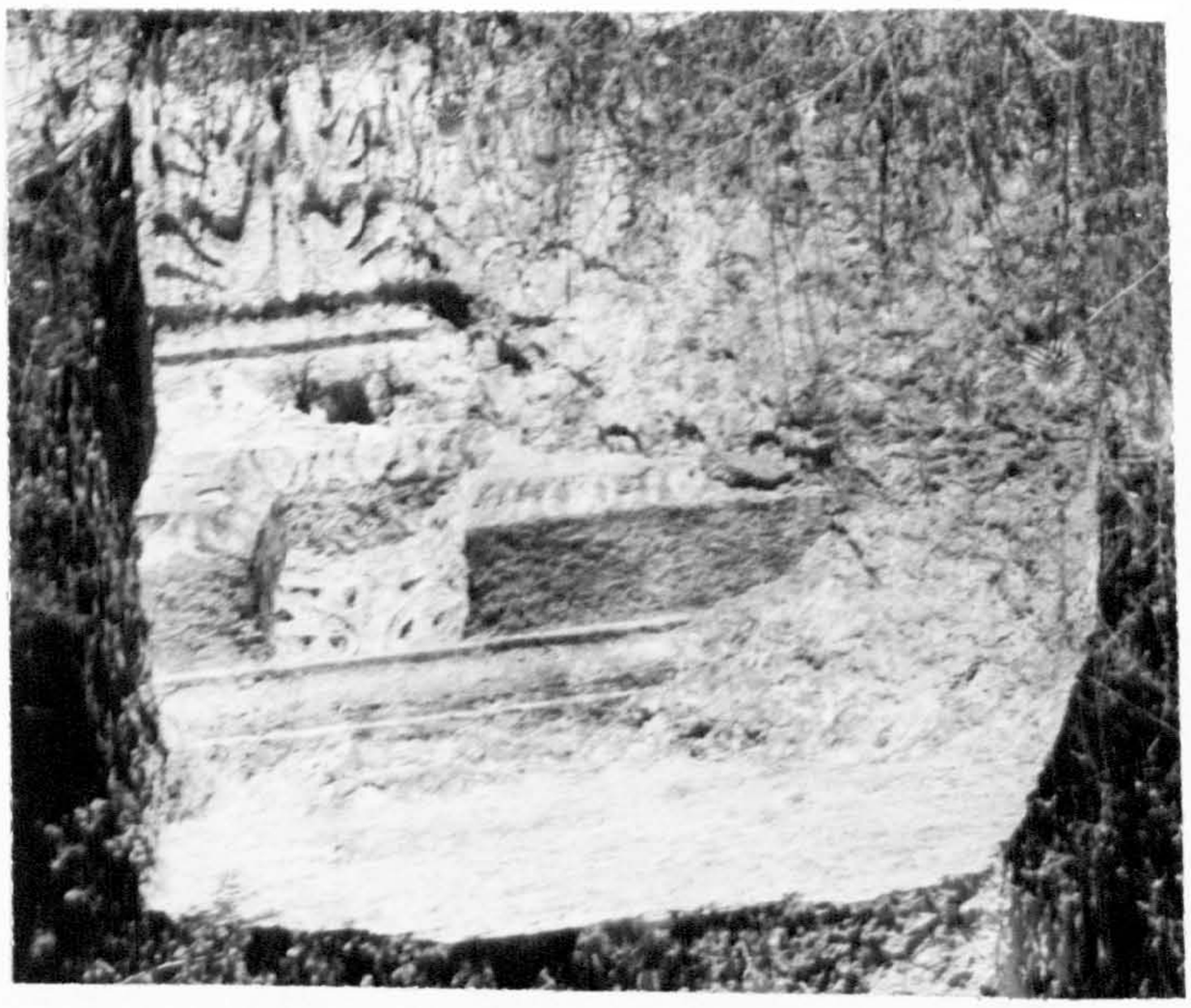


c.

Soli -Pompeiopolis: capitals

a.

b.



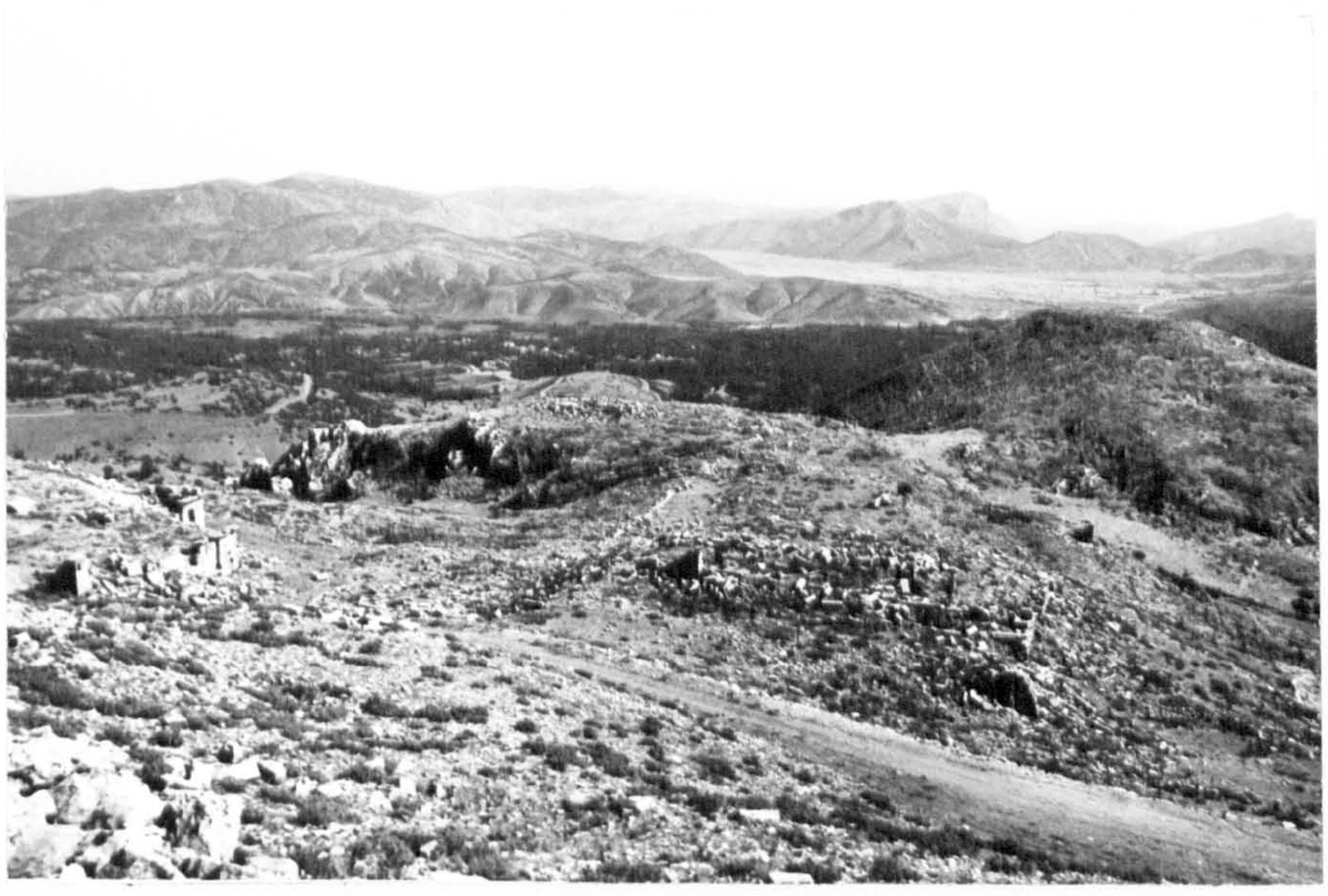
c. Soli -Pompeiopolis:
cornice block from street

a. Antiocheia ad Cragum: junction of agora and street

b. Antiocheia ad Cragum: street from W.

a. Antiocheia ad Cragum: remains of street

b. Antiocheia ad Cragum: remains of street



a. Sagalassos: area of colonnaded street from N.

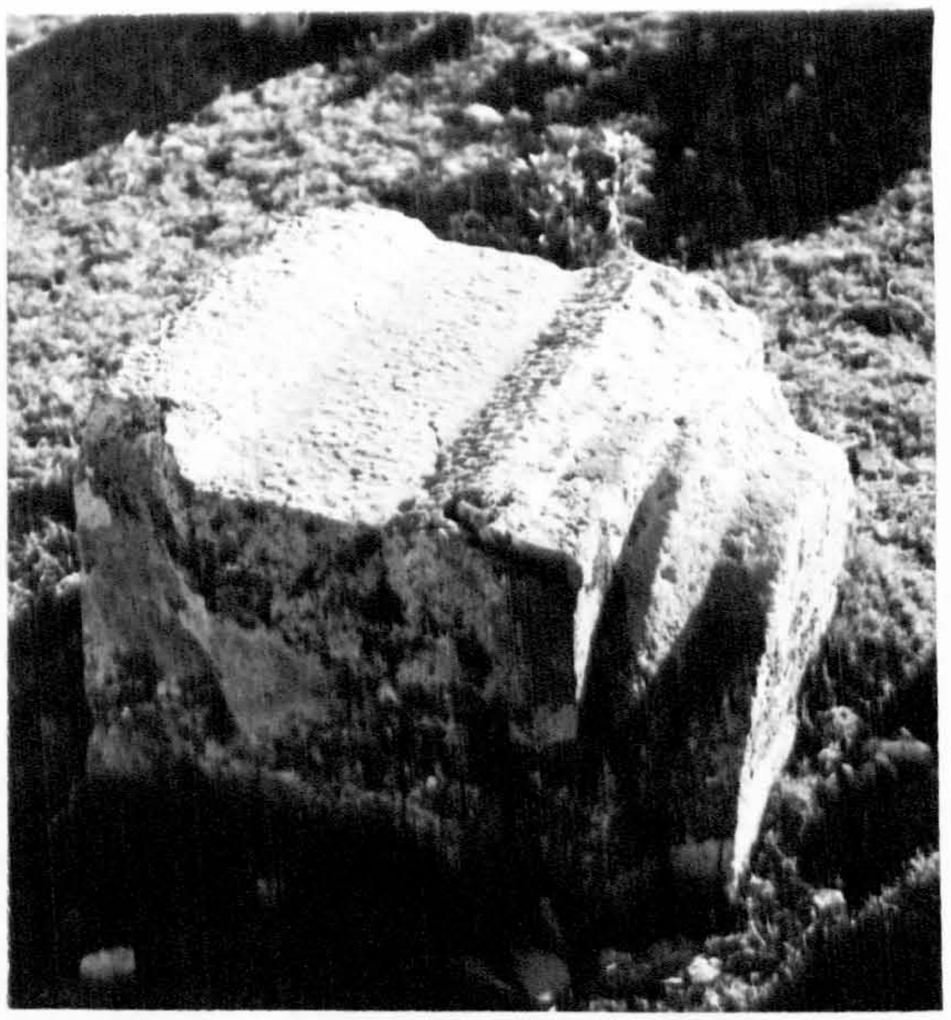
b. Sagalassos: remains of street

a. Sagalassos: line of street from N.

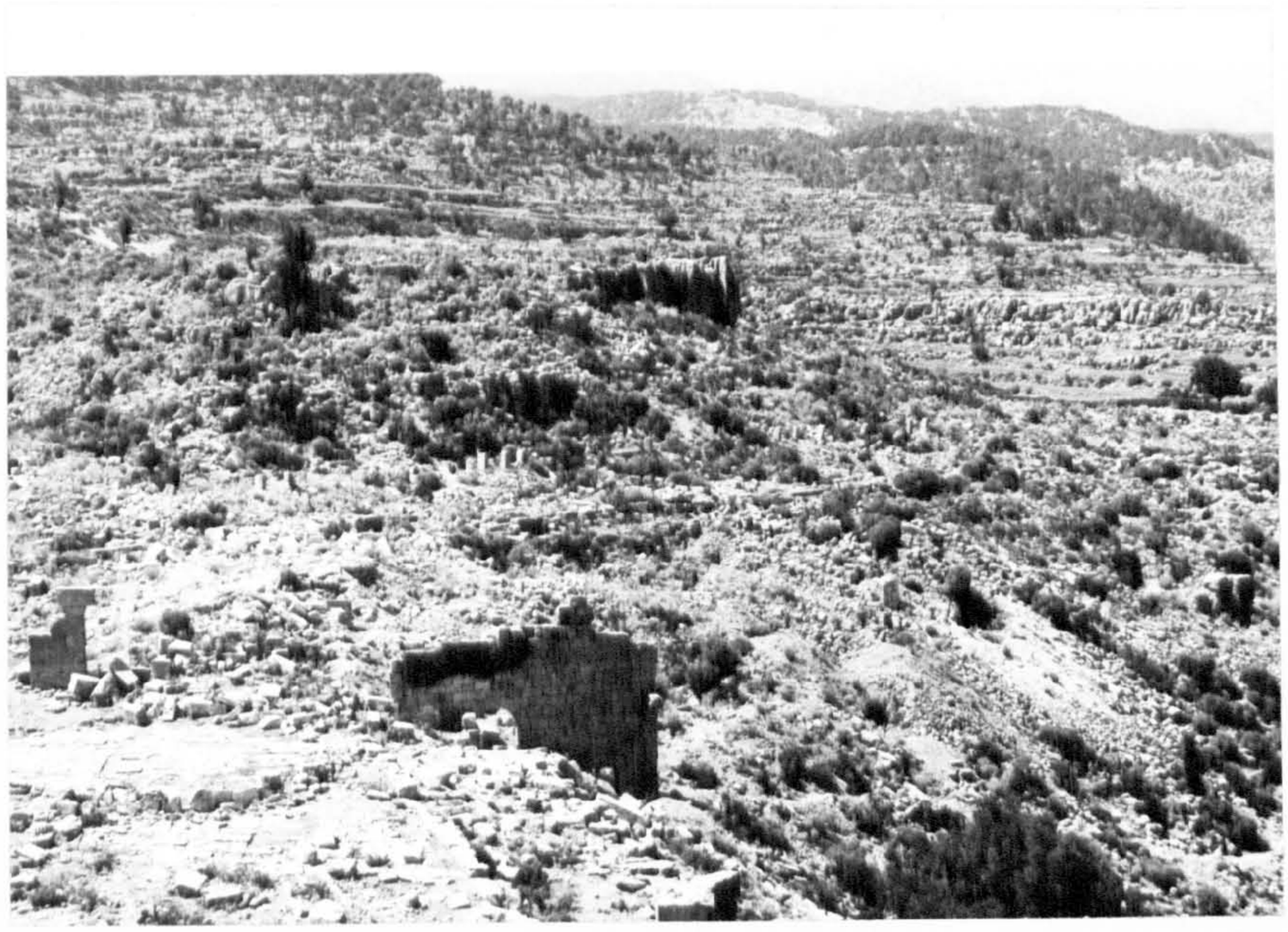
b. Sagalassos: upper agora from NW.

a. Sagalassos: doorway on street from E.

b. Architrave block



c. Pedestal from street



a. Selge: colonnaded street from SE.

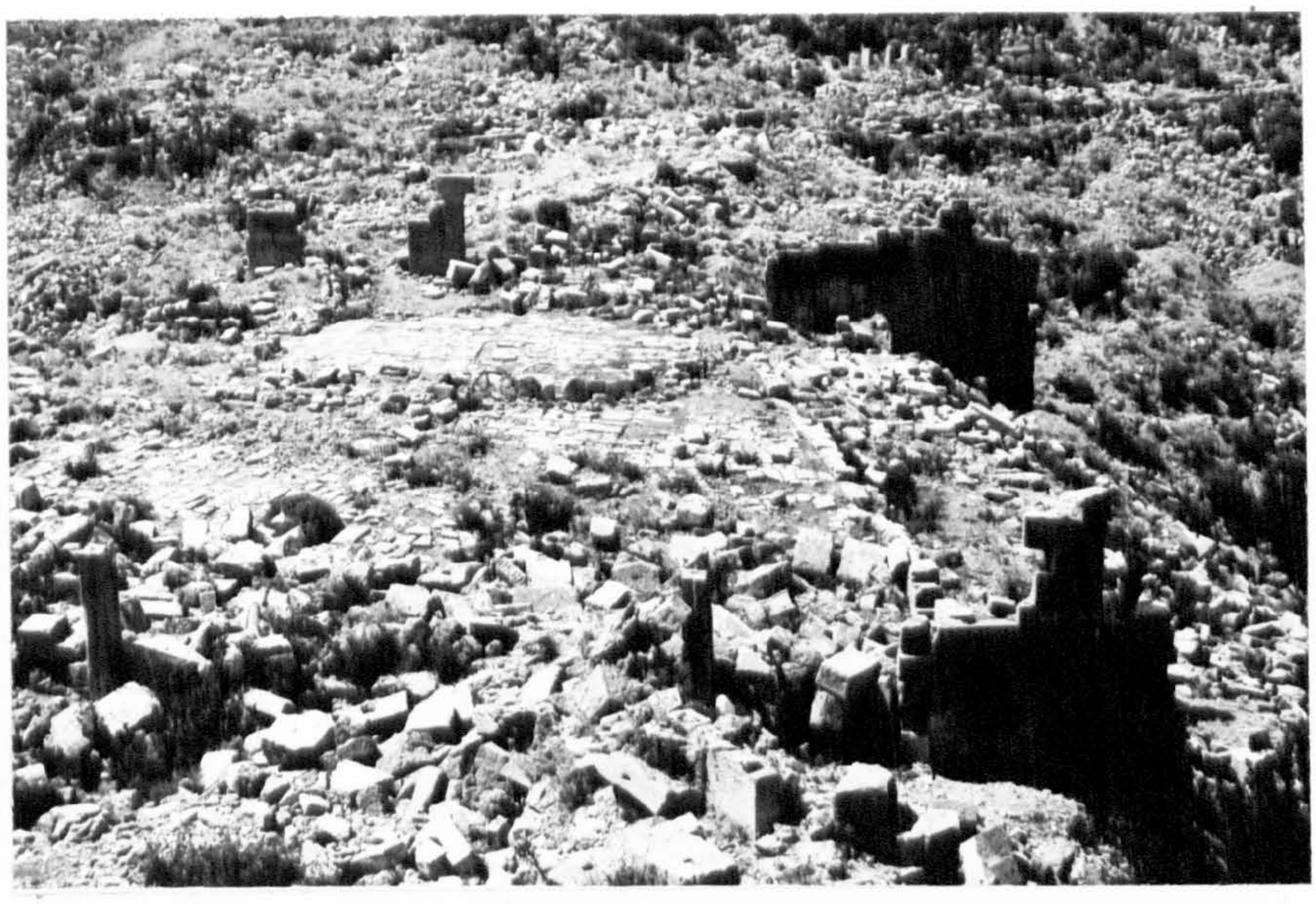
b. Selge: remains of street

a. Selge: remains of colonnaded street

b. Selge: remains of street

a. Selge: Ionic capital

b. Corinthian capital



c. Selge: S. end of street and agora from E.

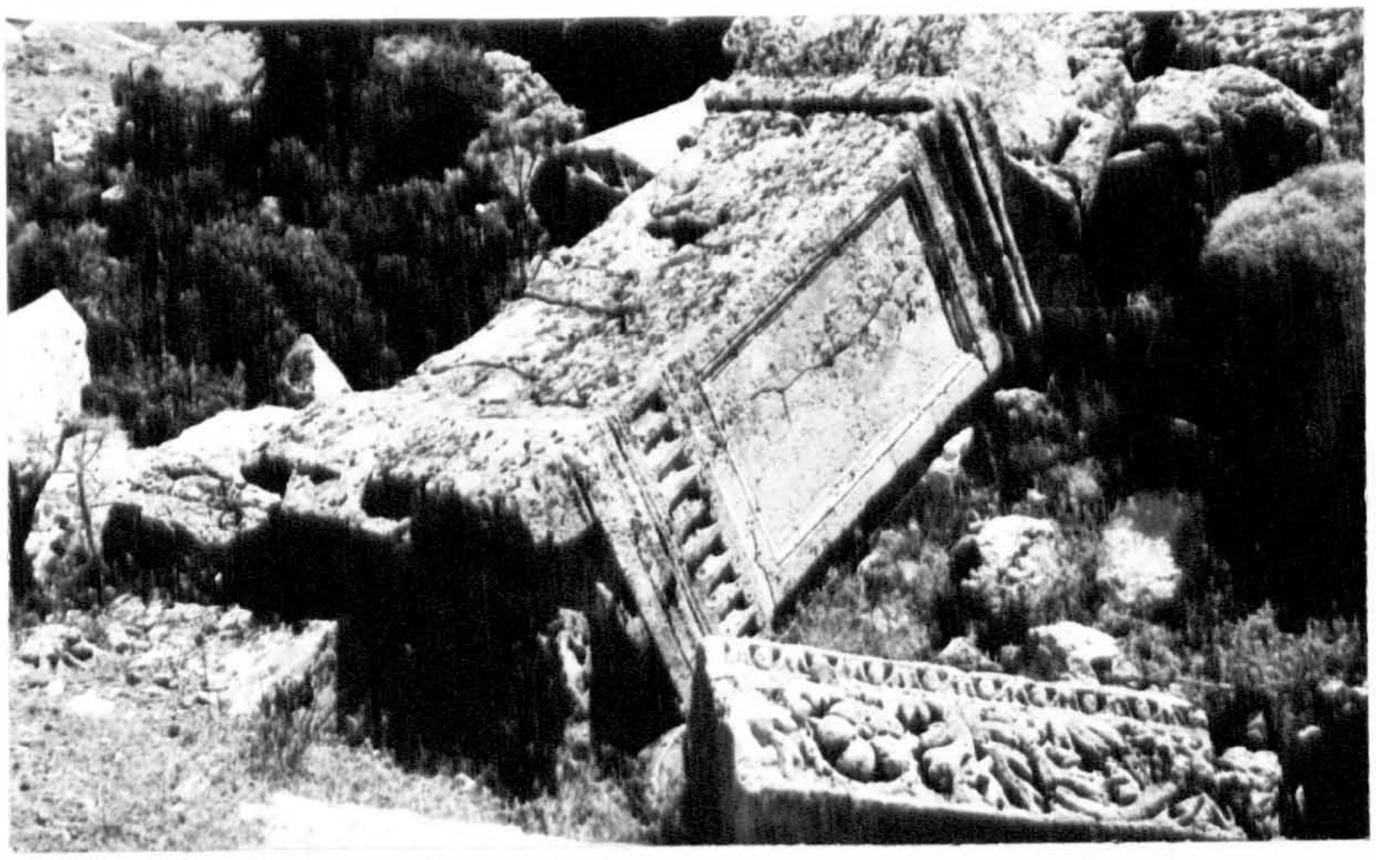
a. Kremna: remains of colonnaded street from N.

b. Kremna: remains of street

a. Kremna: drain under street

b. Kremna: architectural elements from street

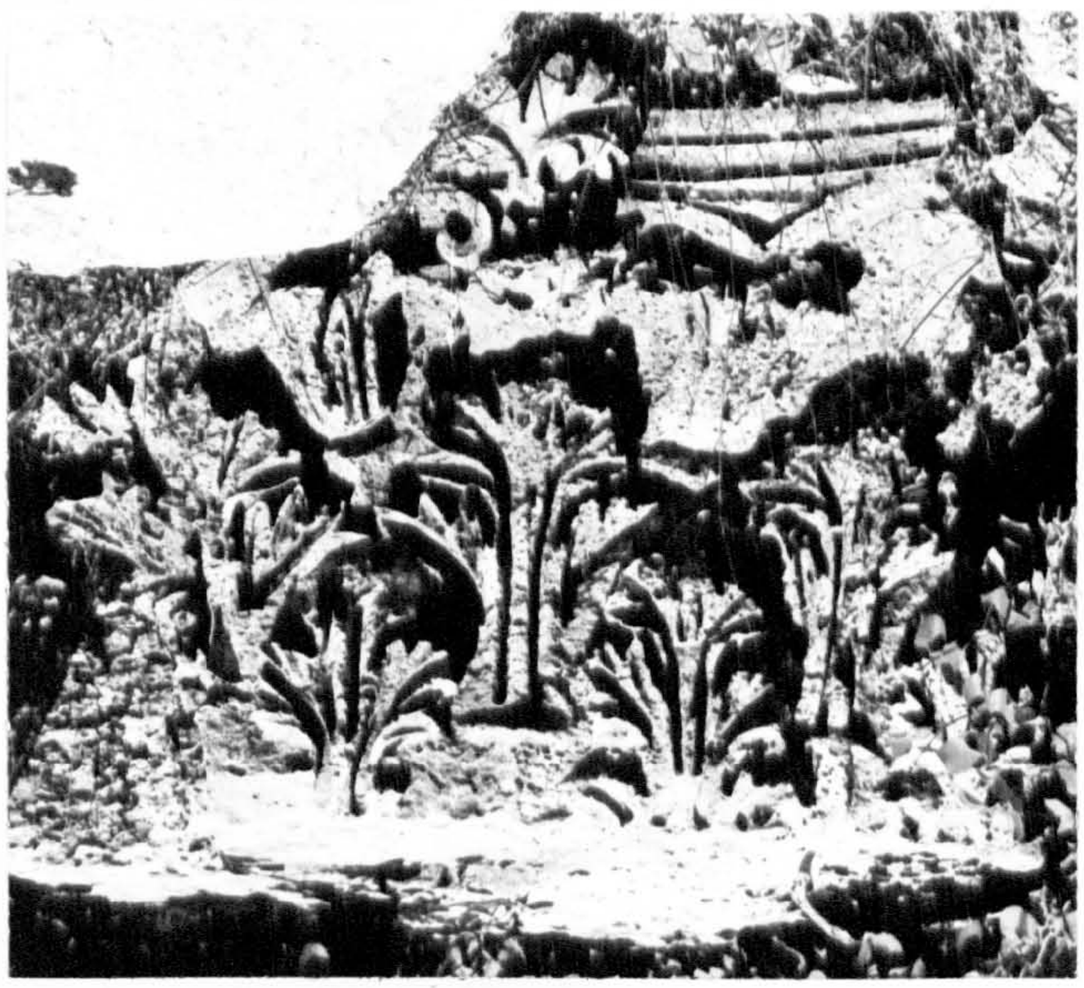
a. Kremna: elements from street



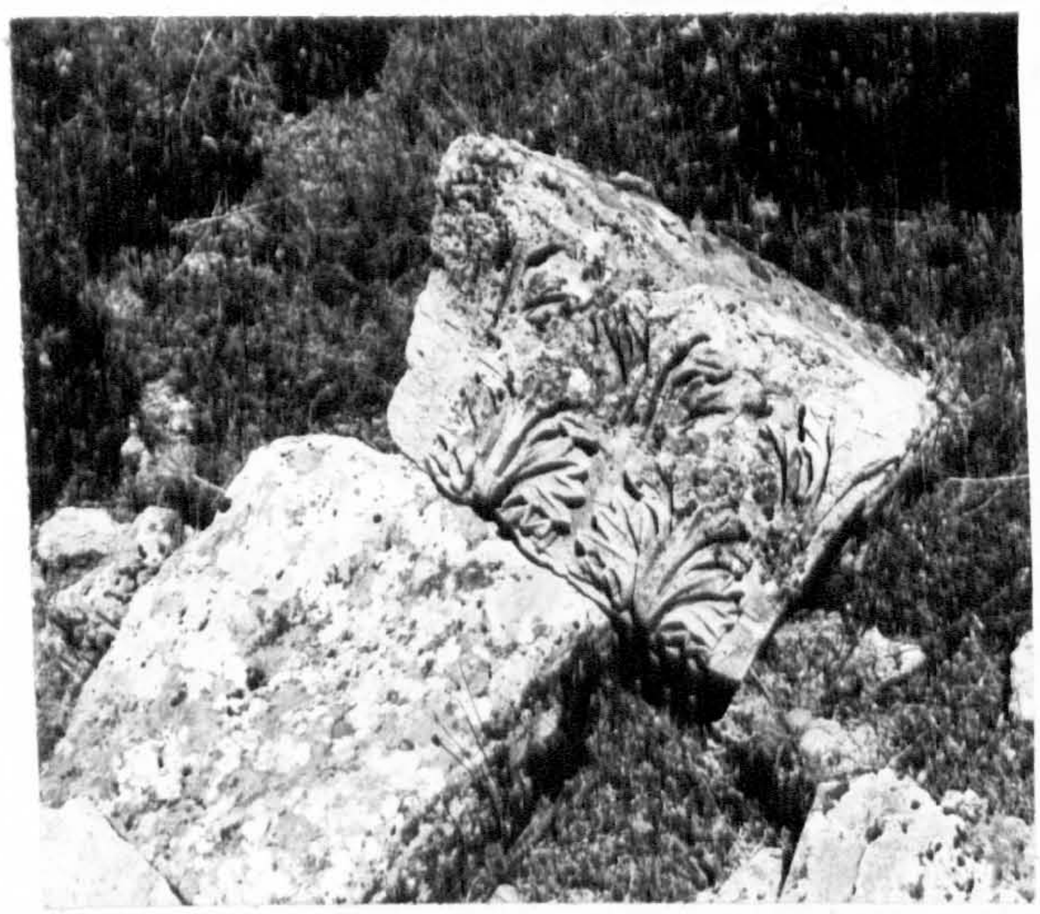
b. Pedestal

c. Column base

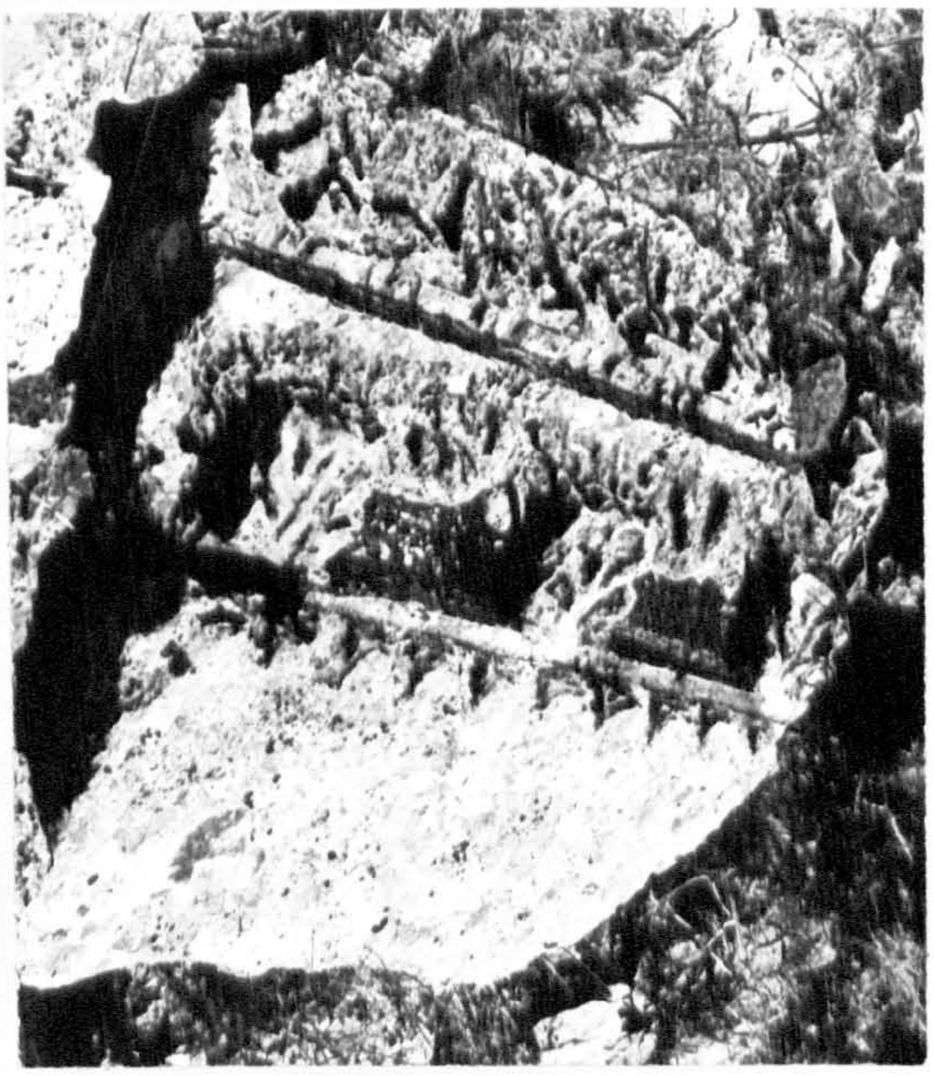
a.



b.



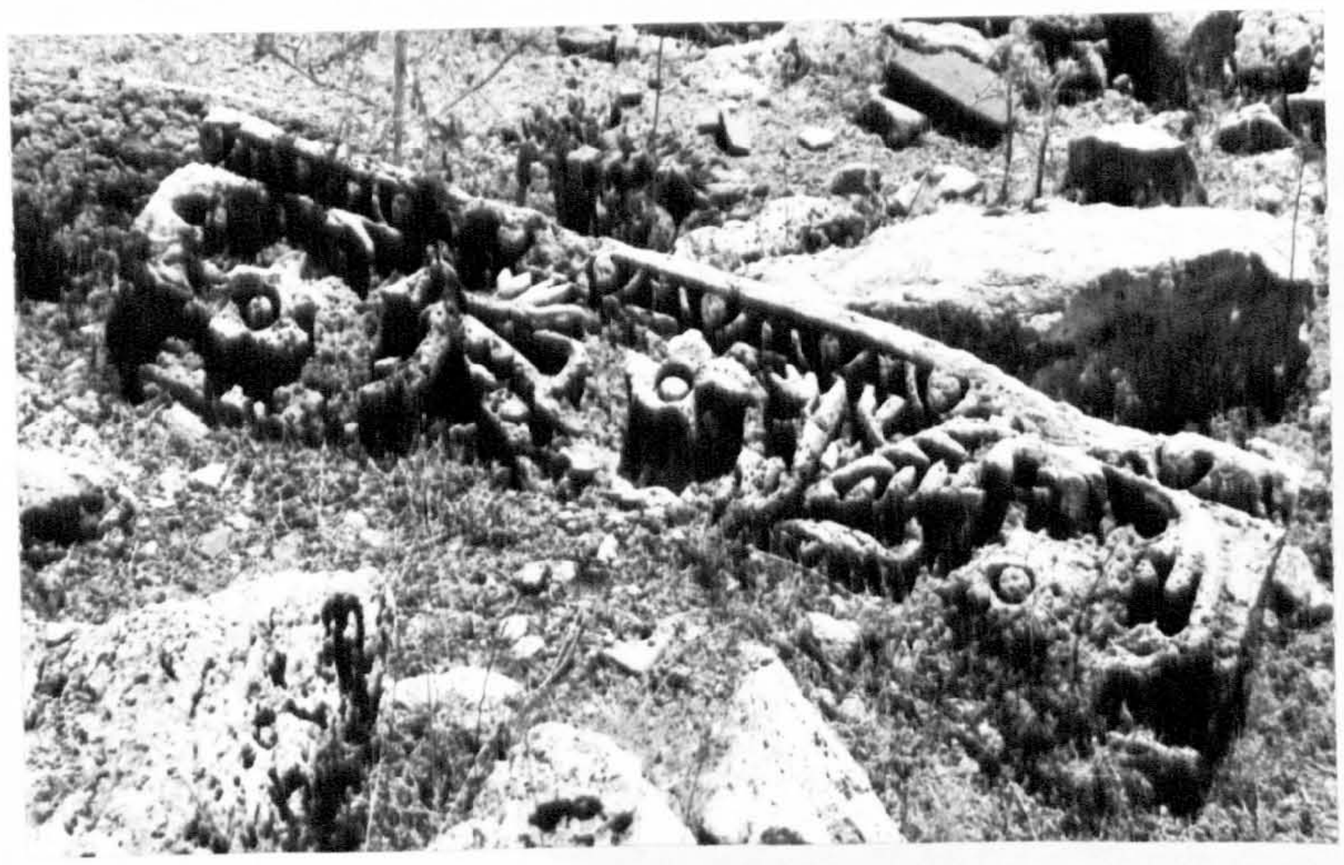
c.



d.

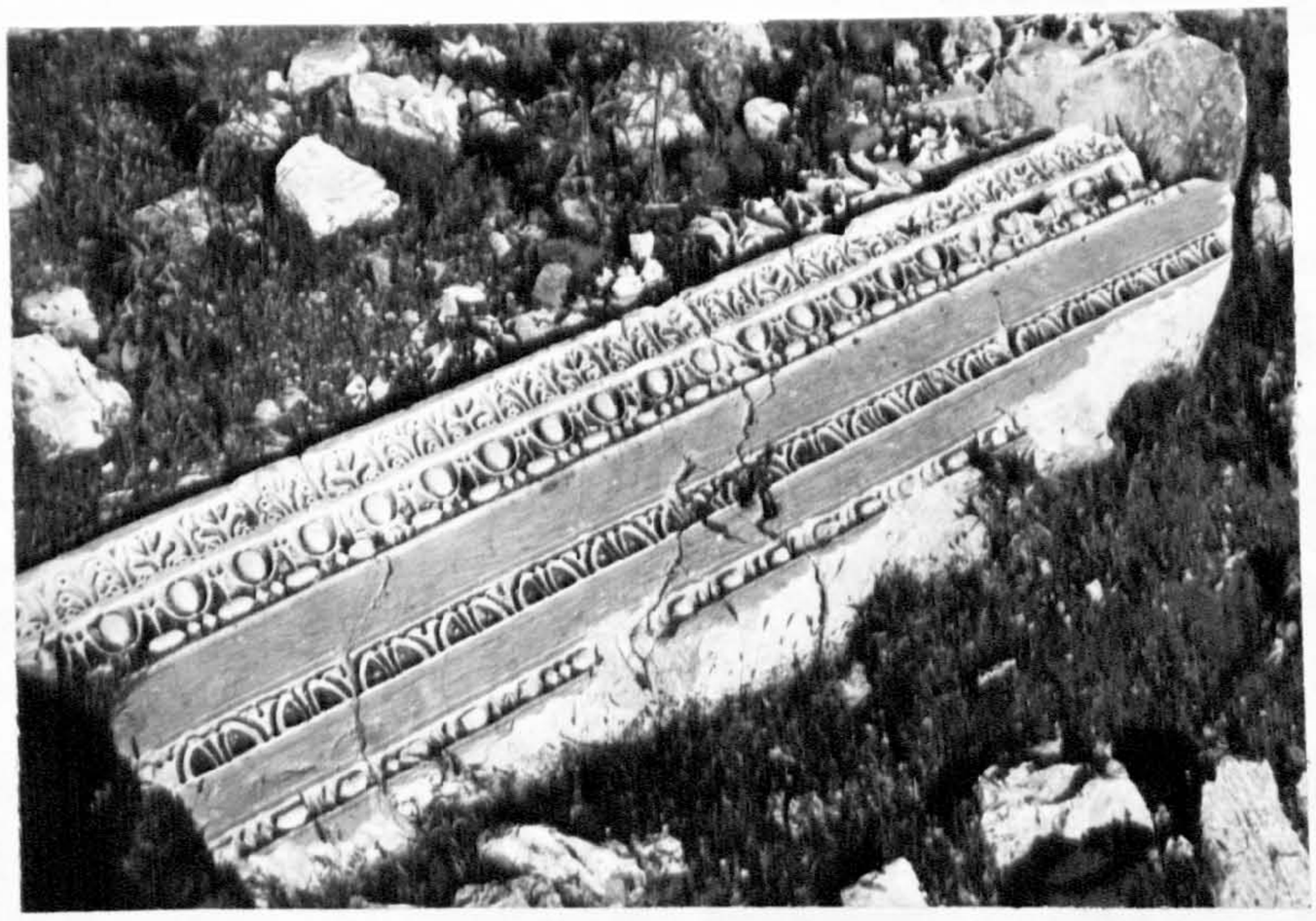
Kremna: capitals and cornice block

a.



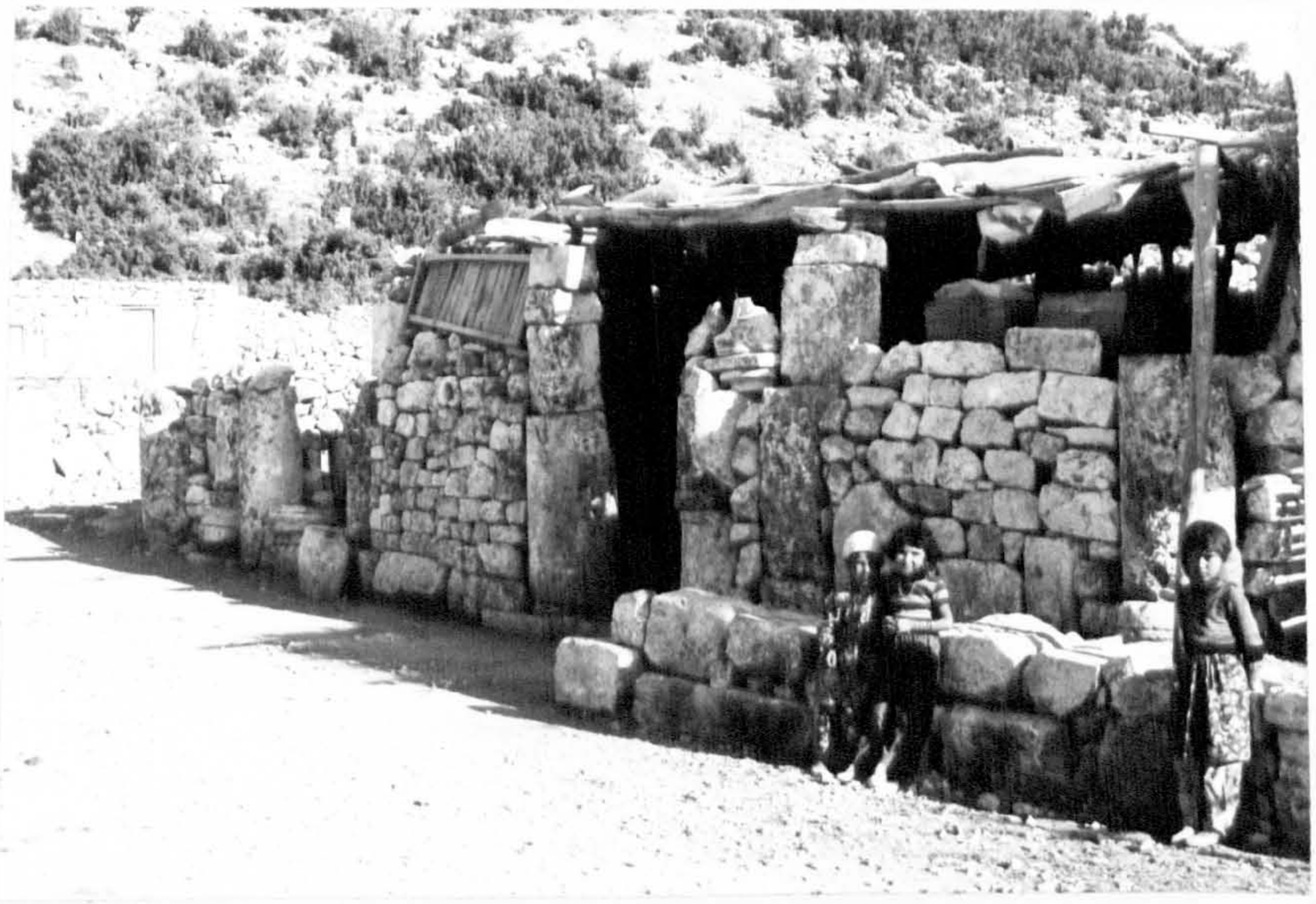
b.

Kremna: entablature of street



c. Kremna: architrave block from
structure at E. end of street

a. Olba: line of colonnaded street



b. Olba: reused columns of street

c. Base and shaft

d. Capital

a. Pergamon: colonnaded street at Asklepieion from E.

b. Pergamon: street from E.

a. Pergamon: paving of street

b. Pergamon: area of nymphaeum on street from S.

a. Pergamon: via tecta from E.

b. Pergamon: S. side of street

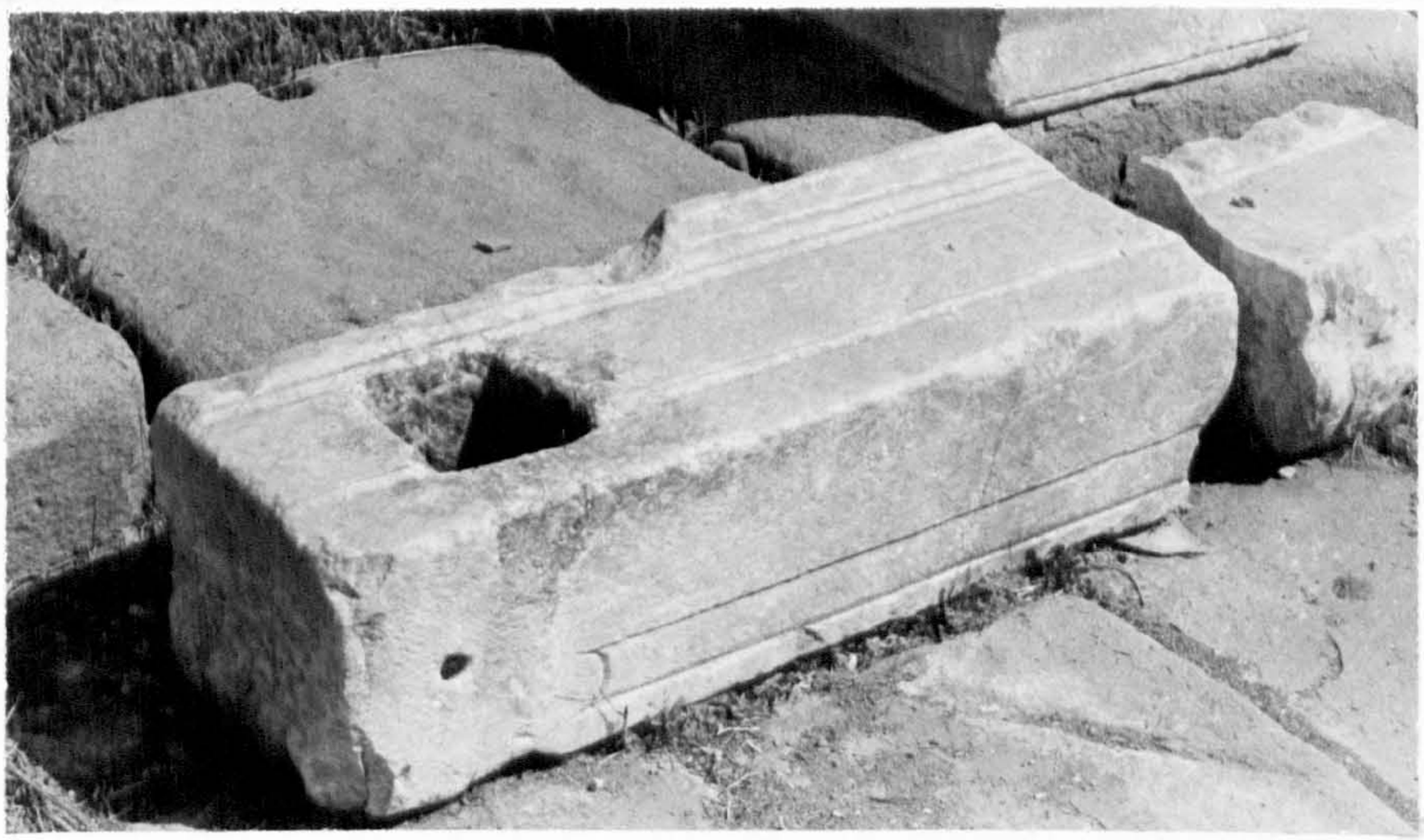
a. Pergamon: column on N. side of street

b. Pedestal at E. end of street

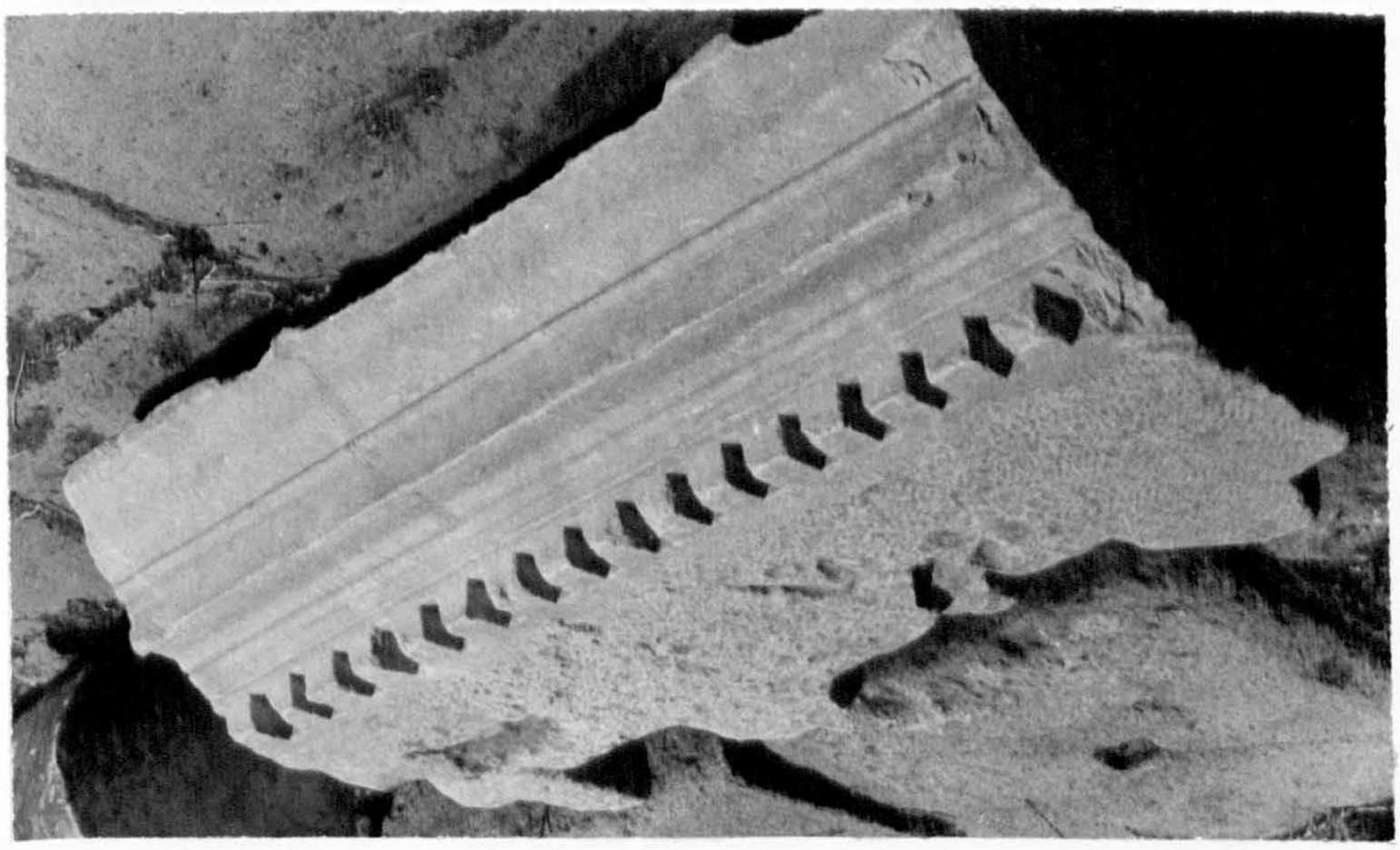
c. Pedestal and base

d. Ionic capital

a. Pergamon: Ionic capital

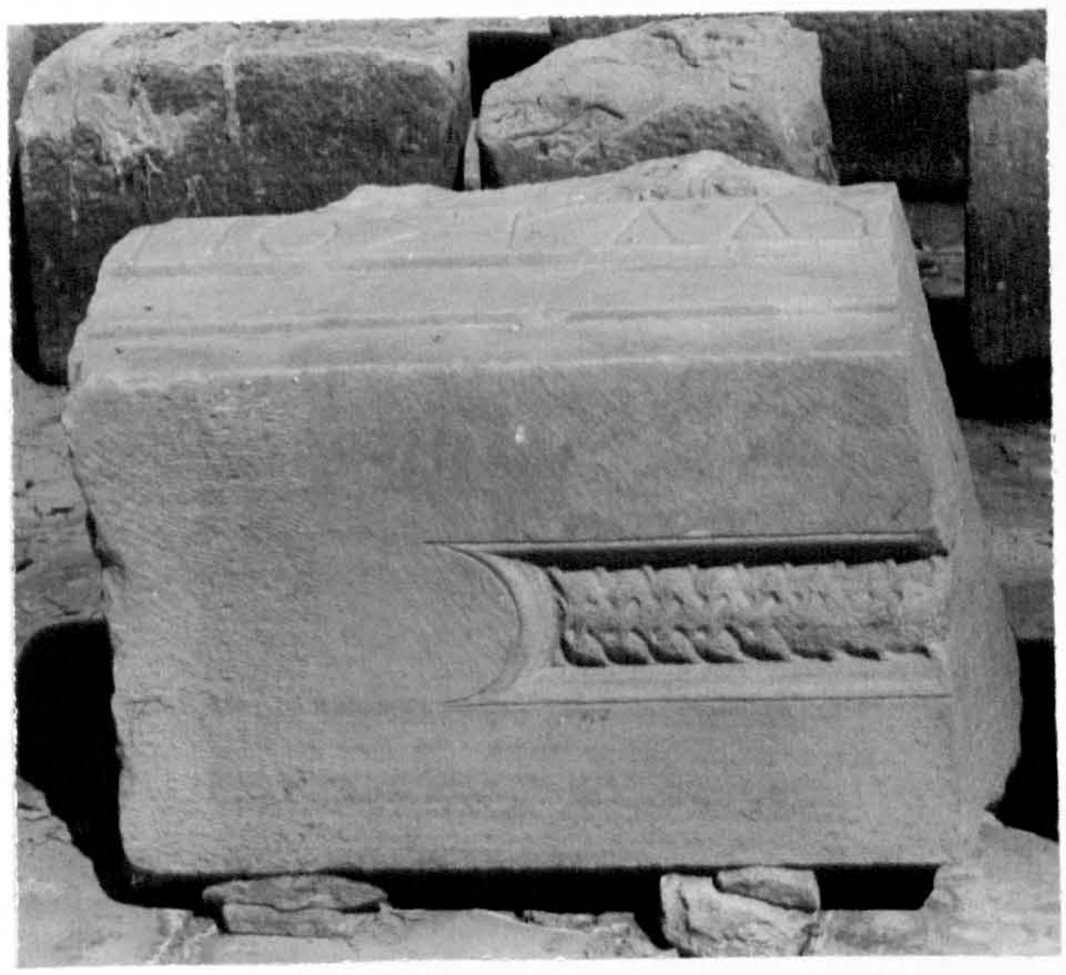


b. Pergamon: fragment of architrave



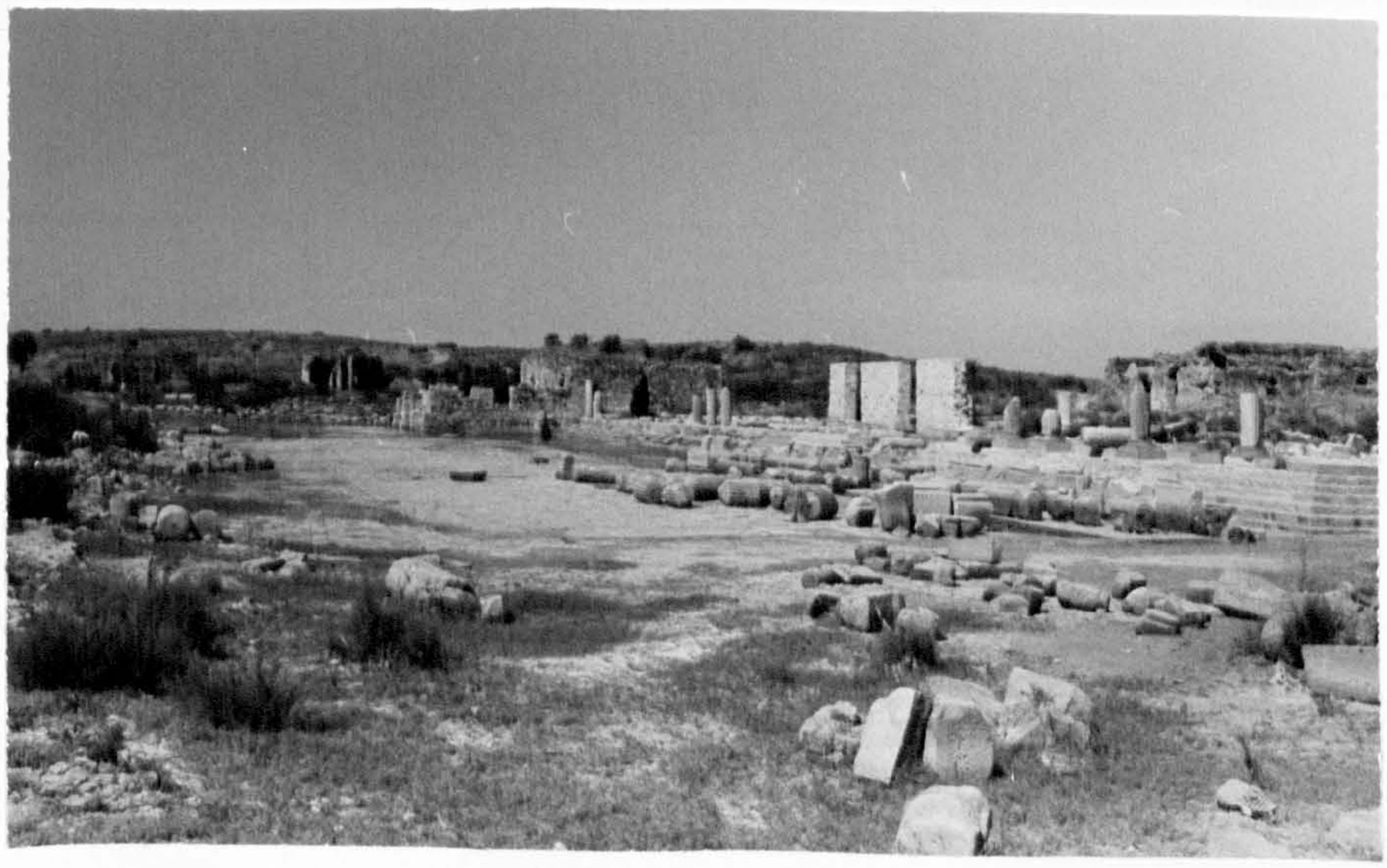
c. Pergamon: cornice block

a. Miletus: fragment of cornice



b. Fragment of architrave

c. Frieze block



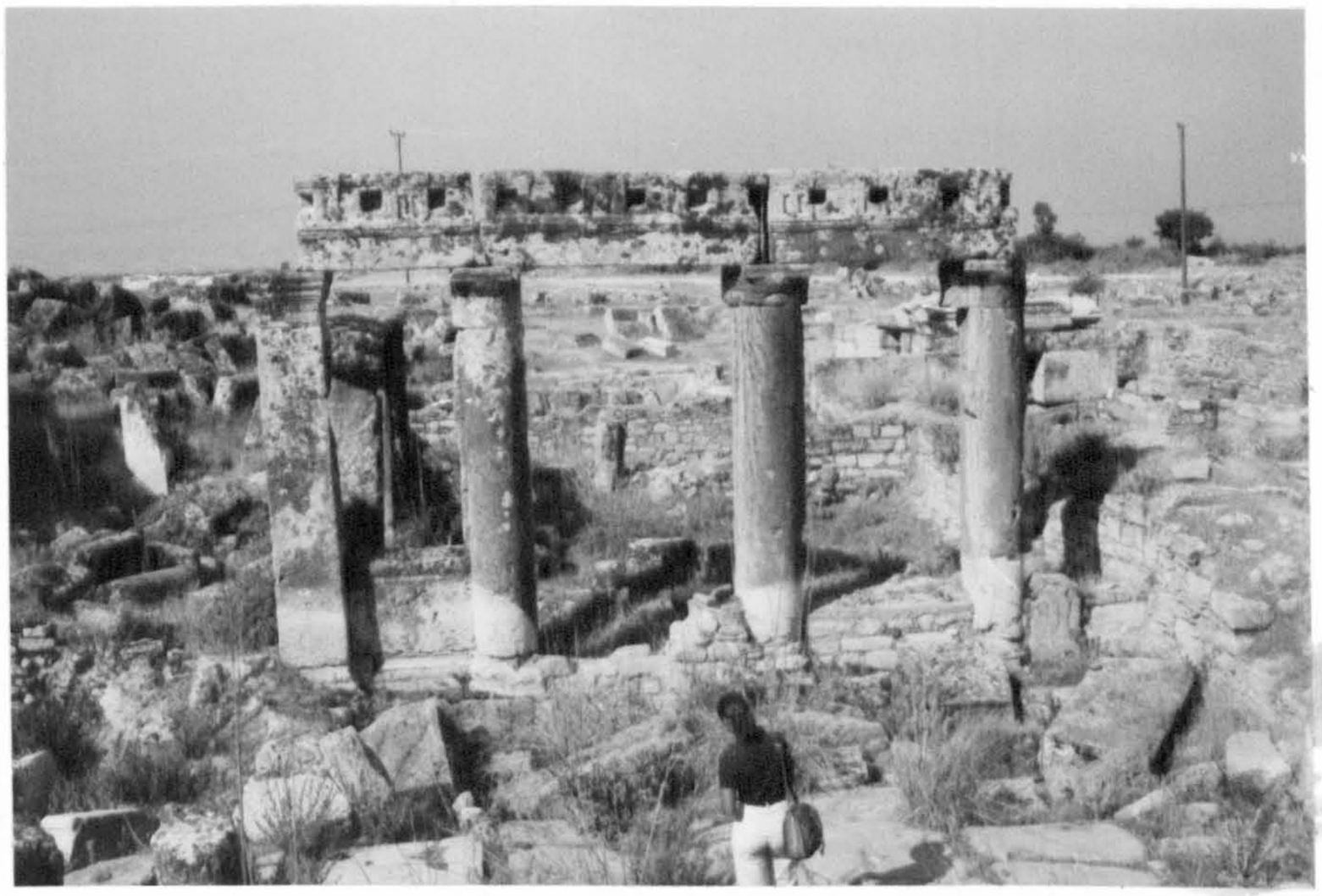
d. Miletus: colonnaded area from S.

a. Hierapolis: street from S.

b. Hierapolis: portico of street from S.

a. Hierapolis: street from S.

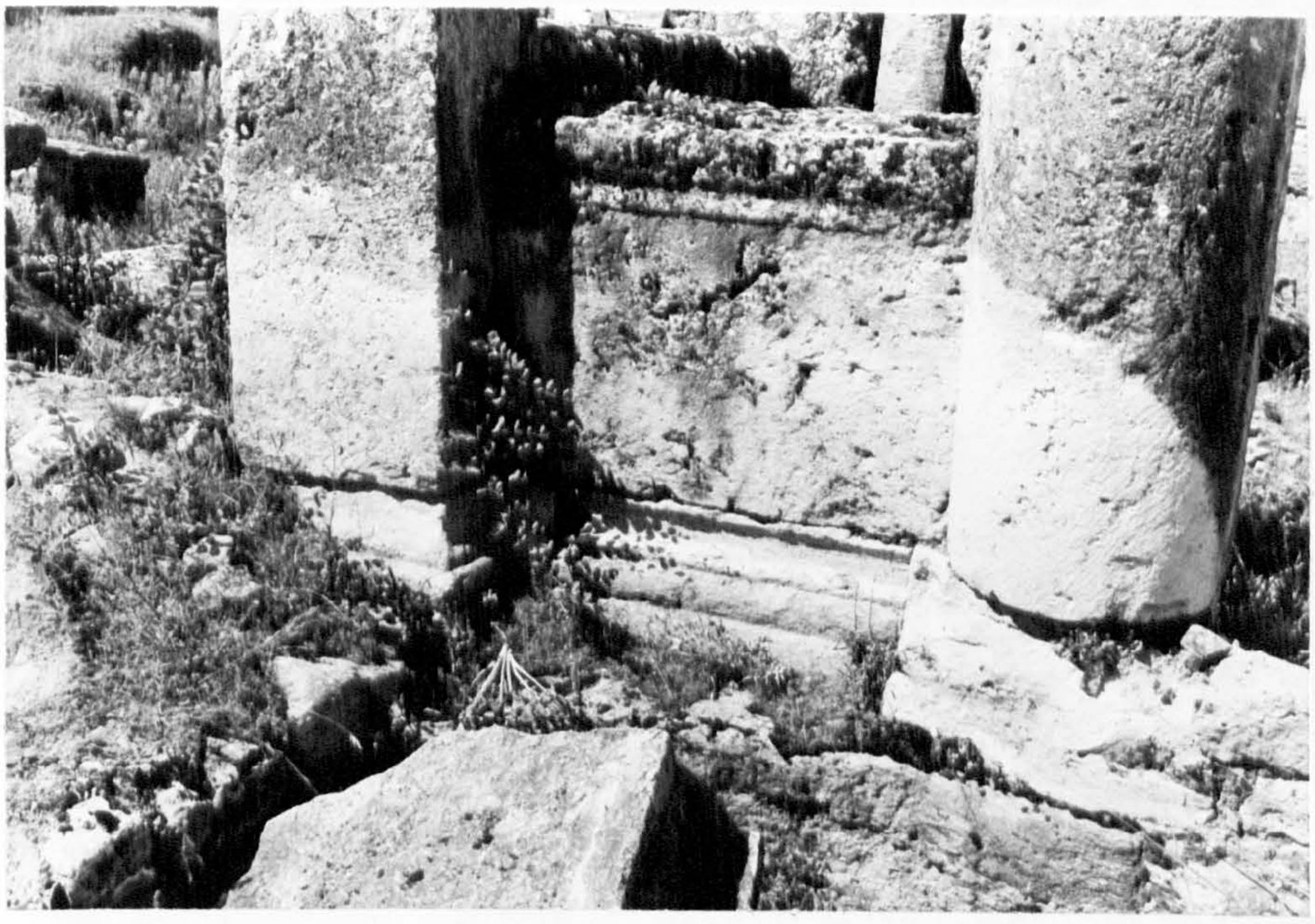
b. Hierapolis: W. side of street



a. Hierapolis: portico of street from E.

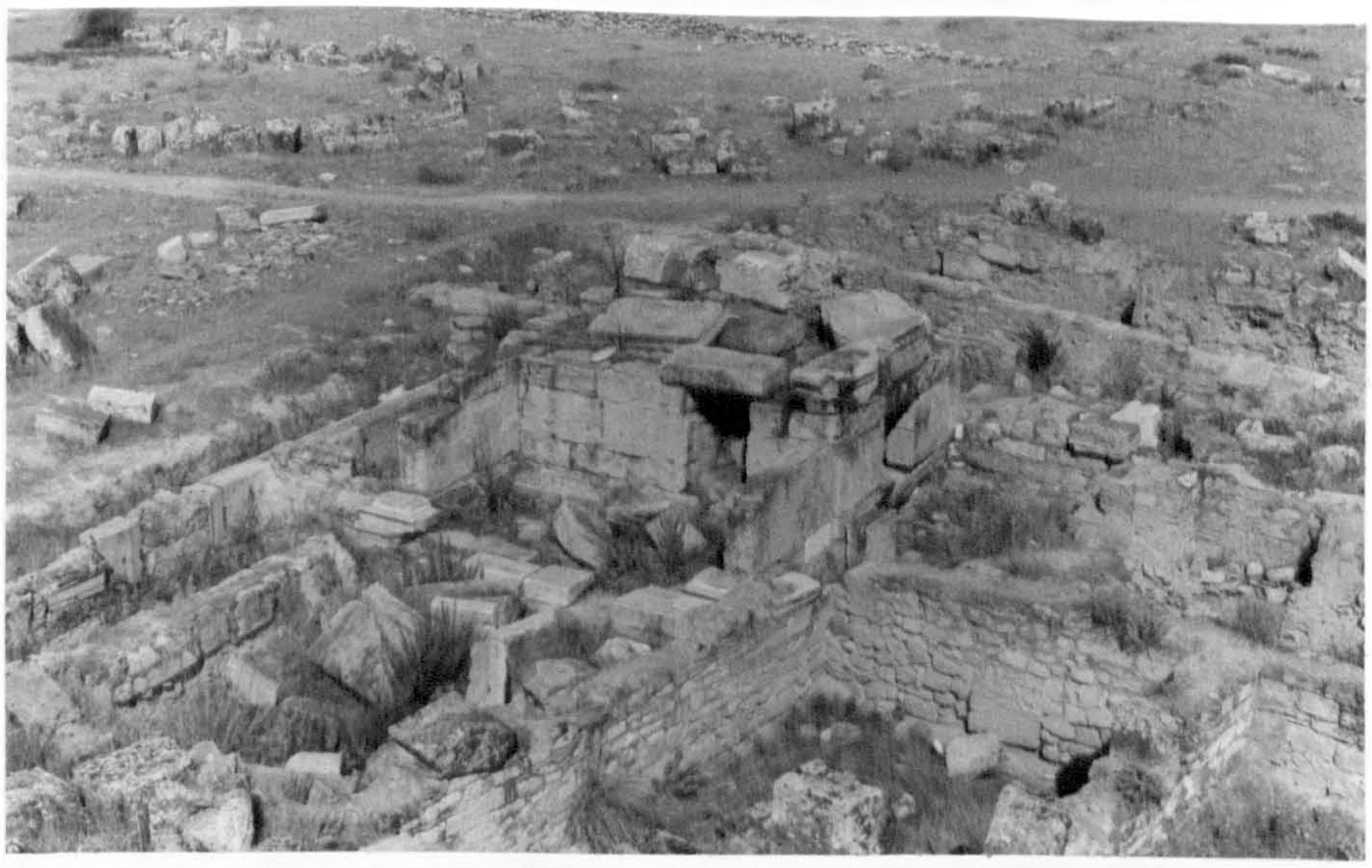
b. Hierapolis: S. end of W. portico above

a. Hierapolis: unexcavated W. portico of street

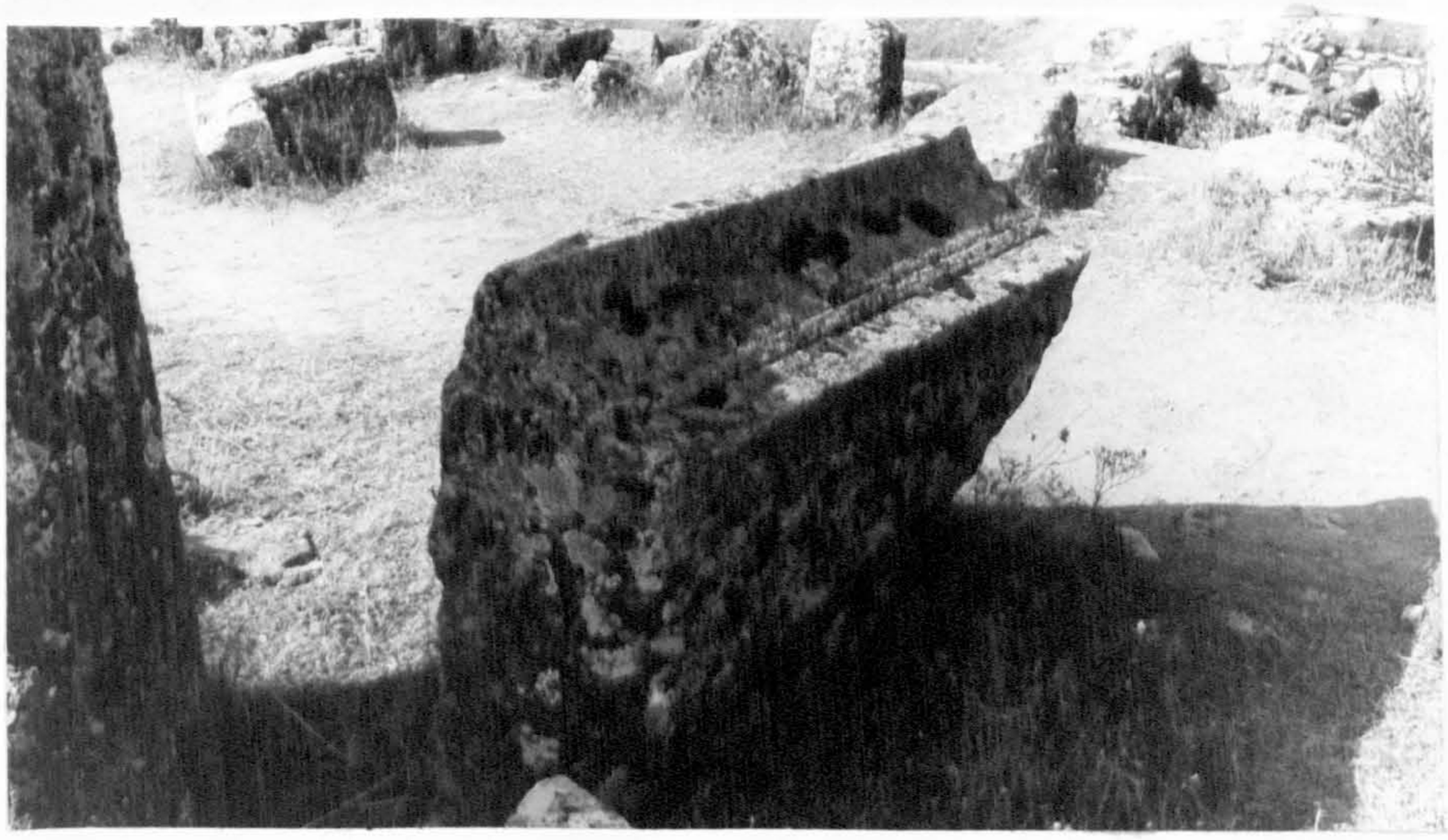


b. Hierapolis: detail of Plate 92a

a. Hierapolis: N. gateway



b. Hierapolis: structures behind W. portico



c. Hierapolis: fragment of cornice

a. Elaeussa-Sebaste: columns from street

b. Soloi (Cyprus); colonnaded street

CORRIGENDA

p. 26 line 24 is should be it

p. 28 Diepnosophistae should be Deipnosophistae

p. 34 line 5 and a portico

p. 167 line 7 bacame should be became

pp. 182-183 of the is repeated

p. 197 line 4 should read (Pl. 12a,b and Fig. 8 for examples having different details)

p. 229 line 3 "by the assertion by an earlier traveller, Wilhelm, that the street...." should read "by the assertion of Wilhelm after an earlier trip that the street...."

p. 238 line 22 0.14m. should be 0.104 m.

p. 250 last line are also is repeated

p. 256 line 18 0.58 should be 0.53

p. 259 line 7 Pl. 47b should appear in the middle of the sentence- in line 5 after "plinth"

p. 265 second to last line installation should be installations

p. 302 line 12 enought should be enough

p. 312 note 102 grecque should be grecques

p. 313 note 121 Sardis 1962 - the year should be underlined

p. 330 last line deprives should be deprive

p. 333 line 9 Pl. 67b

p. 336 line 13 add on after seen

p. 337 line 6 Pl. 66a

p. 388 last line or should be of

p. 393 line 5 an should be and

p. 401 line 9 amking should be making

line 23 delete b between have and been

p. 409 note 27 line 2 Musée

p. 414 note 72 line 5 Sagallassos should be Sagalassos

ADDENDA

Appendix II Add Oenoanda, A. Hall, "The Oenoanda Survey:1974-76," AS 25 (1975) pp. 191 - 197

Chapter VI The mall-configuration Syedra - personal visit, August 8, 1979

SOURCES FOR THE PLANS AND FIGURES

PLAN	SOURCE
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2	E. Akurgal, Ancient Civilizations and Ruins of Turkey (Istanbul 1973) fig. 70
3	M. Lyttelton, Baroque Architecture in Classical Antiquity (Thames and Hudson 1970) fig. 31
4	Based on W. Alzinger, Die Stadt des siebenten Weltwunders. Die Wiederentdeckung von Ephesos (Vienna 1962) p. 99
5	O. Vessberg and A. Westholm, Swedish Cyprus Expedition IV,3 The Hellenistic and Roman Periods in Cyprus (Lund 1956) fig. 10
6	J. Sauvaget, "Le plan antique de Damas," Syria 26 (1949) fig. 15
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9	M. Blanchard-Lemee, Maisons à mosaiques du quartier central de Djemila (Cuicul) (Aix-en-Provence 1975) City Plan
10	J. Baradez, "Nouvelles fouilles à Tipasa: La Maison des fresques et les voies la limitant," Libyca 9,1 (1961) Plan V
11	E. B. van Deman, "The Neronian Sacra Via," AJA 27 (1923) Pl. III
12	A. Garcia Y Bellido, "La Italica de Hadriano," in Les Empereurs romains d'Espagne (Paris 1965) fig. 1
13	G. Downey, A History of Antioch in Syria from Seleucus to the Arab Conquest (Princeton 1961)
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18 Ibid, fig. 6

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20 J. Balty (ed.), Apamée de Syrie: bilan des recherches archéologiques 1965-68 (Brussels 1969) fig. 1

21 op. cit. no. 19, City Plan

22 J. Sauvaget, "Le plan de Laodicé-sur-mer," BEO 4 (1934) fig. 1

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24 D. Schlumberger, "La prospection archéologique de Bactres (Printemps 1947) Rapport sommaire," Syria 26 (1949) fig. 1

25 J. Wilkinson, "The Streets of Jerusalem," Levant 7 (1975) fig. 12

26 op. cit. no. 3, fig. 48

27 M. Wheeler, Roman Art and Architecture (Thames and Hudson 1964) fig. 27

28 A. Lézine, Carthage-Utique. Études d'architecture et d'urbanisme (Paris 1968) fig. 2

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30 I. Browning, Petra (London 1973) p. 137, map 4

31 H. Chehab, "Les palais omeyyades d'Anjar, résidences princieres d'été," Archeologia 87 (1975) p. 20

32 R. B. Bandinelli, Rome. The Late Empire (Editions Gallimard 1971) fig. 422

33 Ibid, fig. 421

34 C. Mango, The Brazen House (Copenhagen 1959)

35 op. cit. no. 19, fig. 130

36 op. cit. no. 7, Plan I

37 J. Lauffrey, "El-Khanouqa. Preliminaires geographiques a la publication des fouilles faites a Zenobia par le Service des Antiquites de Syrie," AAAS 1 (1951) City Plan

38 M. Gough, "Anazarbus," AS 2 (1952) p. 86

39 R. Martin, L'Urbanisme dans la Grece antique (Paris 1956)

40 op. cit. no. 3, fig. 36

41 J. T. Bent, "Recent Discoveries in Eastern Cilicia," JHS 11 (1890) facing p. 235

42 op. cit. no. 7, Plan III

43 C. Foss, Byzantine and Turkish Sardis (Cambridge, Mass. London 1976)

45 A. A. Boyce, "The Harbour of Pompeiopolis," AJA 62 (1958) Pl. II, fig. 4

46 S. Erdimgil and F. Ozoral, "Antiochia ad Cragum," TAD 22.2 (1975)

47 Based on K. Lanchoronski, Städte Pamphyliens und Pisidiens II (Vienna 1890) City Plan

48 A. Machatschek, "Baugeschichtliche Forschungen in Selge (Pisidien)," Forschungen und Berichte 18 (1977) fig. 3

49 op. cit. no. 47 City Plan

50 Ibid, City Plan

51 H. Boehringer, "Pergamon" in Neue deutsche Ausgrabungen in Mittelmeergebiet (Berlin 1959)

52 E. Akurgal op. cit. no 2, p. 214

53 C. Humann et. al. Altertümer von Hierapolis (Berlin 1898)

Figure

1 H. R. Robinson, The Urban Development of Ancient Corinth (Athens 1965)

2 A. Ostraz, "Note sur le plan de la partie mediane de la rue principale de Palmyre," AAAS 19 (1969)

3 op. cit. Plan no. 19, p. 239, Ill. 213

7 A. M. Mansel, "Bericht über Ausgrabungen und Untersuchungen in Pamphylien in den Jahren 1957-1972," AA 90 (1975)

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40 Based on O. Ziegenus and G. de Luca, Altertümer von Pergamon XI,2 Das Asklepieion (Berlin 1975) Pl. 84

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TABLE OF CONTENTS - SUPPLEMENT